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INDIVIDUALIZING INSTRUCTION IN SMALL SCHOOLS.
WESTERN STATES SMALL SCHOOLS PROJECT

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THIS DOCUMENT DISCUSSES PROCEDURES AND POTENTIALS FOR INDIVIDUALIZING INSTRUCTIONAL PROGRAMS IN SMALL RURAL SCHOOLS. FOUR FACTORS ARE SEEN TO BE OPERANT IN THE INDIVIDUALIZATION PROCESS. THESE ARE THE INSTRUCTOR, THE CURRICULUM AND SUPPLEMENTARY MATERIALS, ADMINISTRATIVE PRACTICE, AND PHYSICAL FACILITIES. NEW INSTRUCTIONAL PROCEDURES SHOULD BE INSTITUTED WITH A CONCOMITANT REDEFINITION OF THE ROLE OF THE TEACHER. IT IS SUGGESTED THAT THE CURRICULUM BE REORGANIZED INTO A COMMON CURRICULUM TO BE TAKEN BY EVERY STUDENT, AN ALTERNATIVE CURRICULUM TO MEET THE NEEDS OF LOCAL ECONOMIC SITUATIONS, AND AN INDIVIDUAL CURRICULUM TO PROVIDE OPPORTUNITIES FOR SPECIAL SKILLS AND TALENTS. SUGGESTIONS FOR ADMINISTRATIVE REORGANIZATION TO PROVIDE FOR INDIVIDUAL DIFFERENCES ARE INCLUDED. IDEAS FOR MODIFICATION OF EXISTING FACILITIES AND CONSTRUCTION OF NEW PHYSICAL STRUCTURES ARE PRESENTED. FREE COPIES OF THIS DOCUMENT ARE ALSO AVAILABLE FORM THE WSSP COORDINATIOR, SUITE 1300 UNIVERSITY CLUB BUILDING, 136 EAST SOUTH TEMPLE, SALT LAKE CITY, UTAH 84111. (JM)

Western States Small Schools Project

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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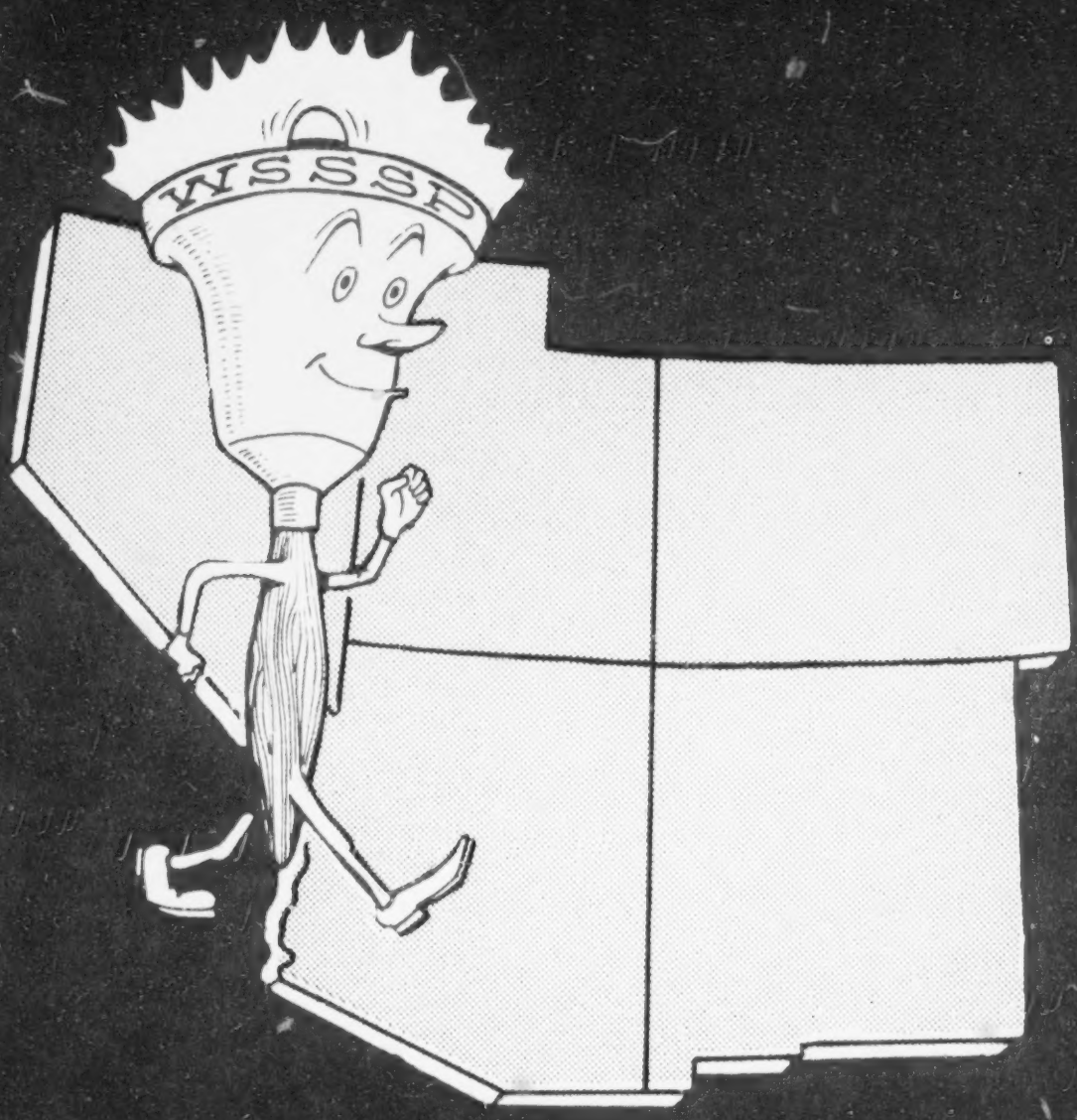

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Salt Lake City, Utah
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OVERVIEW

The Western States Small Schools Project was founded in 1962 on an agreement of five state education agencies to cooperate in finding solutions to common problems of small rural schools. Under the central Policy Board, comprised of five chief state school officers, a regional coordinator and five state directors have been appointed. The project is funded by Ford Foundation and is a continuation of small school improvement efforts begun by the Rocky Mountain Area Project.

Besides sharing results of their individual experimental efforts, and jointly publishing their findings, all states have investigated ways of providing additional opportunity in small schools for individualized instruction and continuous progress education. This monograph has been developed to describe the results of four years of activity in this direction.

It has been organized into five sections:

Section I - Individualizing Instruction in Small Rural Schools

Section II – Individualizing Instruction in Small Schools through Appropriate Curriculum and Materials

Section III - Administrative Arrangements for Individualizing Instruction

Section IV - Instructional Procedures for Individualizing Instruction in Small Schools

Section V - Physical Facilities that Aid the Individualization of Instruction in Small Schools

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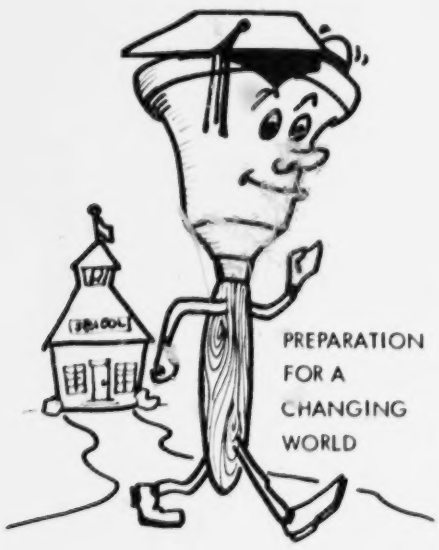
SECTION 1 Individualizing Instruction in Small Rural Schools

WHY INDIVIDUALIZE?

IT TAKES ALL KINDS

Individual differences are desirable in any society and should be especially so in a society as complex as ours. We need persons possessed of many different skills, competencies, and achievements in order to man the thousands of occupations essential to our way of life. We need scientists, artists, and writers with quite dissimilar interests, values, and capacities whose contributions make life richer and happier for all. And beyond the needs of society are the needs of an individual for self-identification and feelings of worth and importance. Variability needs to be a highly prized characteristic in our society. America's schools should be more conscious of this need.

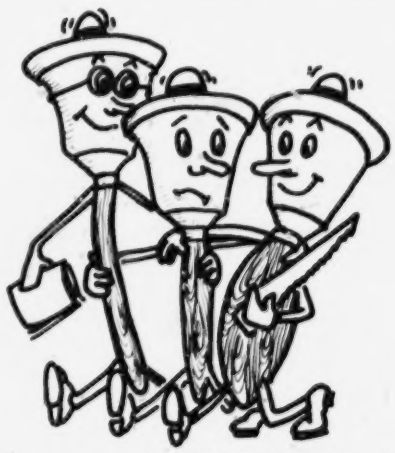


This is not an easy challenge, however. Many obstacles stand in the way. In a homogeneous, static society the planning and administration of appropriate schools for its members would be relatively simple and easily obtainable. Because the basic function of the schools is to serve the best interests of society, stability will insist on conformity in many matters and the schools must educate in such a manner that the members of society will conform whenever such conduct is essential and desirable. Our American society, however, is neither homogeneous nor static. A free democratic society must with equal vigor insist upon diversity and the schools must educate accordingly.

The task of the school is therefore twofold: it must foster conformity without sacrificing diversity; and it must encourage diversity without preventing conformity.

In this frame of reference, one would hope that the school environment for each developing young person would help him become: (1) not dependent and powerless, but self-confident, yet not so self-confident that he becomes arrogant; (2) accustomed to empathize or even to solicit the judgment of others; (3) habituated to be attentive to others, polite in refraining from interrupting yet courageous and independent enough to object and disagree; (4) independent in and responsible for his own education; and (5) have a lively interest in some worthy pursuit that adds to the stockpile of inner resources and thus not become a passive external spectator.

VARIABILITY IN THE SMALL SCHOOL



INDIVIDUAL DIFFERENCES

The standard student range of capabilities, interests, and needs exists in small schools just as in large ones. However, the minimum number of students with such differential requirements is a restricting factor. Language problems, special education challenges, gifted students, varying learning styles, individual course requests, all create a need for programs that are differentiated to students' special needs and differences. There are sometimes too few students of a particular interest, background or ability to provide a stimulating, challenging group interaction. There are seldom enough students with common needs to organize an "economical" homogeneous instructional group.

The results of standardized tests administered in one instance to a class of twenty-one third year students and in the other instance to a group of twenty-eight high school juniors serve to illustrate the wide ranges of interindividual and intraindividual differences that exist in even as small a group of students as may be found in any class in a small school.

CALIFORNIA ACHIEVEMENT TEST

HIGH SCHOOL JUNIORS

Grade Placement	Reading		Mathematics		Language		Spelling
	Vocab.	Comp.	Reason	Fund.	Mech.	Eng.	
15.3			1				
15.0-	1						
14.6-14.9	1		1				
14.2-14.5			1	2	2		2
13.9-14.1		1		1			
13.5-13.8					2		2
13.0-13.4	1	2	2	1			
12.4-12.9				4			
11.812.3	3	2	5		1		2
11.2-11.7	2	3	1		2		
10.8-11.1	1	1		2	1		
10.3-10.7	6	7	1	3	9		3
9.7-10.2			4				
9.3-9.6	3	3		3	6		8
8.7-9.2		5					
7.7-8.6	1	2	2	8			
6.7-7.6	5	2	4				6
6.6-7.0	4		5	4	5		5
5.8-7.5			1				
5.7-							
N	28	28	28	28	28		28

METROPOLITAN ELEMENTARY GRADE 3 GRADE PLACEMENT AT TIME OF TESTING 3.5

FORM C

	Reading Grade Equiv.	Word Knowledge Grade Equiv.	Word Discrimination Grade Equiv.	Spelling Grade Equiv.	Language Grade Equiv.	Arithmetic Computation Grade Equiv.	Arithmetic Grade Equiv.
NANCY	3.9	4.5	4.4	4.9	4.6	4.2	3.6
MARGARET	3.9	3.7	3.9	3.8	3.7	5.0	3.7
CYNTHIA	6.4	6.6	4.9	6.0	3.8	5.6	4.3
LINDA	5.7	6.1	5.3	5.1	5.3	5.2	4.2
BILLY	6.1	7.1	5.8	6.5	5.9	5.0	5.7
MICHAEL	4.5	4.0	3.5	3.6	3.8	4.7	4.9
JANET	4.0	3.4	3.9	5.7	4.7	3.9	3.7
DEBRA	5.3	5.2	5.1	5.3	4.4	4.3	4.8
NANCY	4.2	3.8	4.3	4.5	4.4	4.7	4.0
GILBERT	3.7	5.4	5.1	5.3	4.6	4.8	4.4
SUSAN	4.9	3.7	3.9	3.8	5.0	5.0	4.4
DEBRA	3.1	4.3	4.1	3.8	5.0	4.9	4.0
JENNY	4.5	4.1	3.5	3.5	4.1	5.0	4.6
DAVID	4.2	5.7	5.1	6.5	4.4	4.9	5.1
KENNETH	4.5	5.4	5.8	6.5	7.5	4.9	4.8
ANTHONY	4.2	4.3	4.6	4.8	3.7	4.3	4.2
RONNIE	4.2	4.0	3.3	3.1	3.9	4.2	4.6
JODY	5.7	5.6	6.1	7.0	7.5	5.1	4.6
JANE	4.0	4.7	4.4	5.1	3.8	4.8	4.4
HELEN	4.7	4.3	4.9	5.3	4.7	4.7	4.6
GENEVA	5.1	5.6	5.1	4.6	5.0	5.0	4.4

DEFINITION OF INDIVIDUALIZATION

Individualization of instruction is the process of adjusting educational practices to the best interest of each student.

There are a number of important characteristics of any plan to individualize instruction. Among these appear to be the following:

(a) The student must be put in the position, and continually in the frame of mind, of accepting his own individual responsibility for learning. Knowledge is something he himself must acquire, not that which is "shoved down his throat."

(b) Objectives of instruction (both course and topic) are defined in terms which are plain to the student and are made available to him. Students are helped to accept the objectives of instruction as their own goals.

(c) The student understands that performance measures are designed to permit him to demonstrate his acquired competencies not to test his inadequacies.

(d) Measurement of performance is carried out at frequent intervals for the specific purpose of permitting teacher, student, and guidance counselor to know what progress has been made, as well as what directions of future effort should be planned for the individual student.

(e) Guidance takes on a new and added dimension within such a framework. It becomes a matter of informing the student about his progress, about next things to be undertaken, and relating each curricular choice to course goals and to vocational goals.

(f) The curriculum is a sequential one, which allows for continuous progress.

(g) Individual alternatives within courses of instruction for the individual student are planned.

DIAGNOSIS

Any process of individualizing instruction implies careful diagnosis of where he can go in relation to any learning enterprise. It also implies diagnosing the special characteristics—learning styles, personal concerns, abilities, and past experiences—of each child as cues to the ways he can best reach his educational goals. Therefore, schools should develop more appropriate and accurate measures of performance and potentials and appropriate diagnostic procedures must be developed. When instructional objectives are stated in behavioral terms, performance measures can be constructed that will permit the students to demonstrate the terminal behavior the instructional program was designed to develop.

MOTIVATION

When the objectives of instruction are understood and accepted by the student as his own goals he is more likely to accept individual responsibility for his own learning, and thus motivation is internalized. Stating objectives in terms that are clear to the student, designing performance measures to permit students to demonstrate acquired competencies and exhibit progress, and providing

such measures of performance at frequent intervals, help put students in the position of accepting more responsibility for their own learning.

Another important factor in the motivation of the learner is the degree of relevance, as seen by the student, between the learning process in which he is involved and the reality of his present environment and long-range goals. When what he is learning makes sense in terms of the world in which he is living and in terms of the things he hopes to accomplish, the student is easily motivated.

WSSSP APPROACHES TO INDIVIDUALIZING INSTRUCTION IN SMALL SCHOOLS

The need to recognize individual differences and make drastic changes to meet them is a pressing need in the small school toward which the WSSSP has directed a great deal of effort.

Within the small school is to be found the potential flexibility to do many of the things necessary to accomodate individual differences—class size is small, teacher and students know each other well, and programs are easily adjusted and schedules are not difficult to change. The WSSSP has attempted to capitalize upon these potential strengths in developing new practices that would provide better opportunities for students to pursue individual interests, satisfy individual needs and develop individual potential.

Significant among the attempts to individualize instruction in small schools are:

1. NEW WAYS OF ORGANIZING THE SMALL SCHOOL

(a) varying the size of instructional groups
(b) promotion policies which permit continuous learning
(c) appropriate ways of recording and promoting pupil progress
(d) practices related to examination, honors, awards, and credits that recognize and value student diversity.
(e) scheduling for flexibility
(f) grouping for instruction
(g) independent study opportunities

2. CHANGES IN CURRICULUM AND MATERIALS

(a) the search for self-instructional materials and devices
(b) development of a continuous progress curriculum
(c) the use of tape recorder
(d) the use of the telephone
(e) the construction of multi-phased curricula
(f) use of paperbacks and periodicals
(g) establishment of learning resources centers

3. A REDEFINITION OF THE ROLE OF THE TEACHER

(a) recognition of individual differences in teachers and efforts to better utilize teachers' talents and abilities
(b) teachers as organizers of learning rather than presentors of information

4. NEW INSTRUCTION PROCEDURES

New instruction procedures (small group instruction, large, independent study, self-instruction, individual project, seminars [with and without teacher supervision]).

5. MINOR REMODELING TO PROVIDE MORE APPROPRIATE PHYSICAL FACILITIES

- open labs
- listening and viewing centers
- large instructional laboratories (learning barn)
- study carrels

Each of these efforts is described in some detail in the pages that follow and specific practices that are currently in operation in WSSSP schools are reported.

It is hoped that this publication will provide encouragement to others as they strive to improve the learning opportunities of students who attend necessarily existent small schools.

SECTION 2
Appropriate Curriculum and Materials

I. INTRODUCTION

Most of the failures of the past, in attempts to individualize instruction, are attributable to the fact that these efforts have seldom gone beyond tinkering with the structure of the school—old purposes, old content, old materials were left unaltered. Individualizing instruction is not simply a matter of "watering down" content or lowering standards to accommodate differences in students. It means, rather, searching for the fundamental structure of content and developing programs of study that are academically sound and which are suited to students of varying abilities, needs and interests. This means seeing content as a means to an end and not the end itself. It means defining clearly, in operational terms, the objectives of a course or learning experience and then selecting and organizing content in such a way as to provide a variety of alternatives for moving individual students toward these objectives.

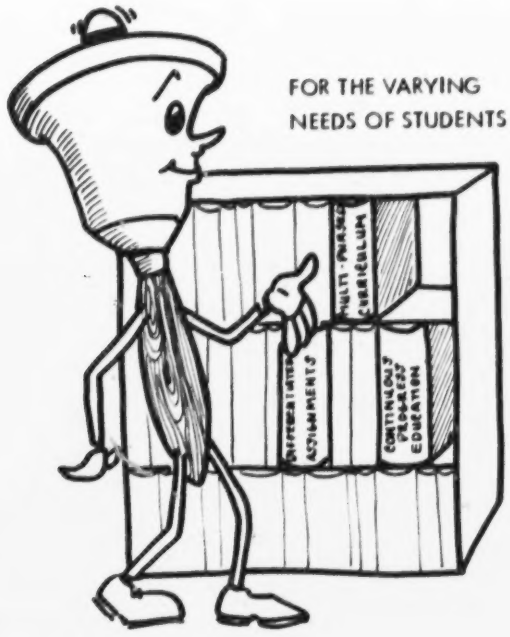
II. ORGANIZING THE CURRICULUM FOR INDIVIDUALIZING INSTRUCTION

A difficult challenge in providing learning activities appropriate to various kinds of diverse student needs is providing an appropriate curriculum. It usually involves one or more of the following arrangements:

(a) Making room within courses and units of instruction for a variety of choices appropriate to the needs and abilities of individual students.

(b) Using a multi-phased curricula in which the material to be covered is designed to suit the learning needs of students in varying phases of development.

(c) Developing a sequential curriculum that allows for continuous learning in materials suited to individual student capacities.
(Continuous Progress)



(d) Putting into the hands of students study guides that let them in on what is to be learned and leads them sequentially, from one learning experience to another.

Each of these arrangements is discussed in this section.

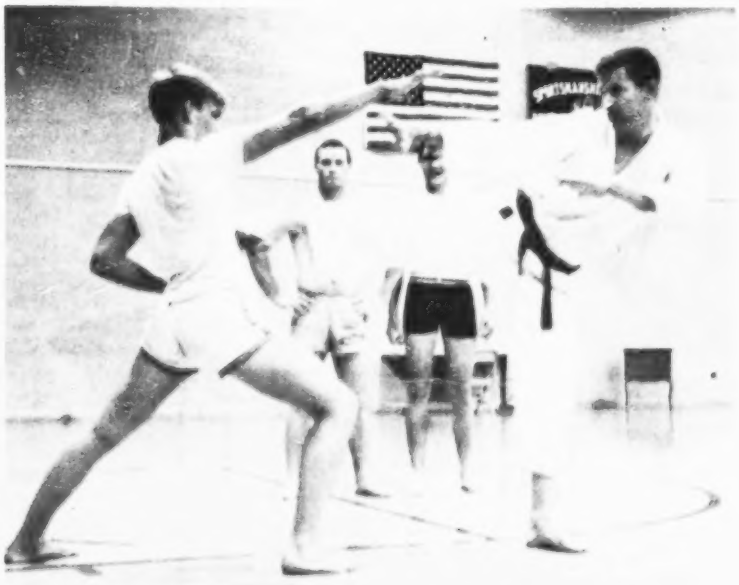
THREE CURRICULA

In making suitable arrangements for individual student learning it is helpful to classify the curriculum into three types: viz;

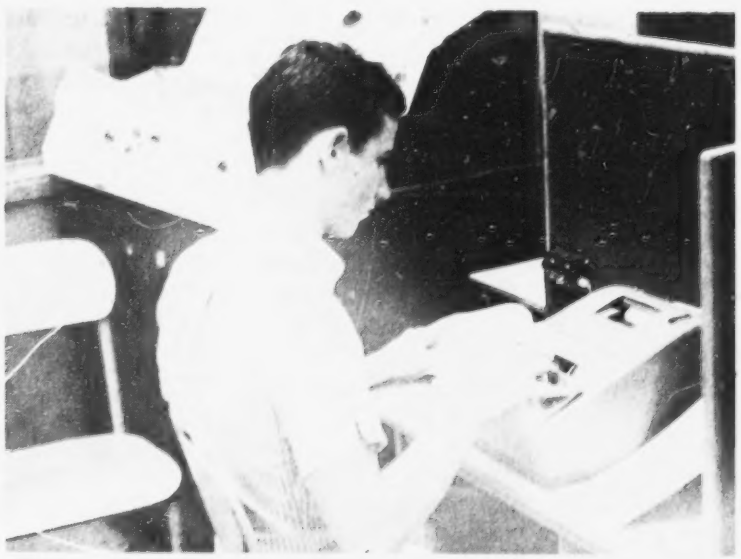
1. the Common Curriculum which contains those objectives society has specified as important for every student. For example, the school is expected to teach every child to read. Every student is expected to learn certain fundamental citizenship skills and values. While certain instructional objectives are the same for all children, there will be great variation in the rates of learning and even in the mode of learning for children of different abilities and learning styles. So even in the common curriculum, provision must be made for variations in rate and in methods of instruction.

2. the Alternative Curriculum which contains those objectives that are responsive to the local expectations of school patrons and to the local environment. For example, students in many rural areas

need special help with communication skills while at the same time much of the natural science curriculum that would be important for urban students could be eliminated. Homemaking skills may be seen to be an important part of the curriculum in some locality but not in another. Some students, because of a background deficiency or a particular common interest or ability may be provided an alternative curriculum.



Joe T. . .is older than many of his classmates and has moved frequently. He has ample ability but he had become so involved with outside groups that he was considered a potential dropout. He became interested in a teacher's hobby of practicing Karate. As they began to work together, they attracted other students and formed a group that was looked upon with admiration by all the school. With this young instructor as an advisor, the boy's entire school attitude is much improved.



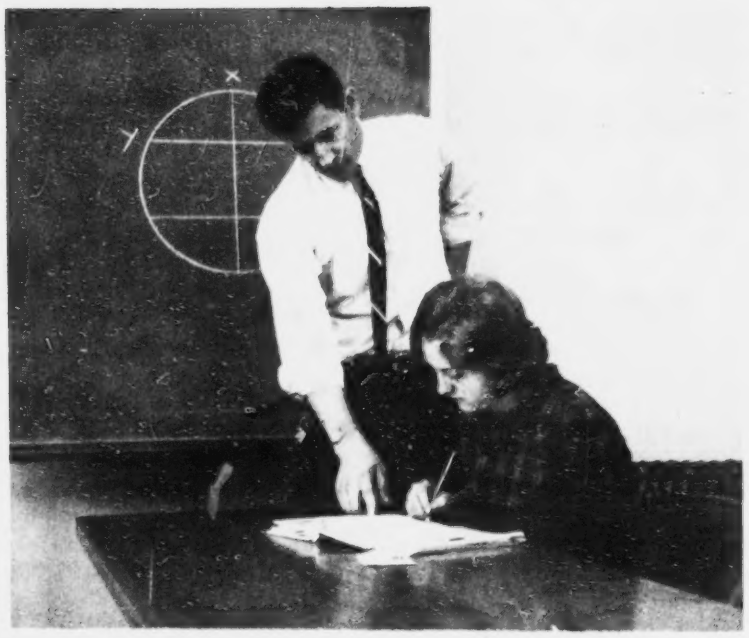
James M. . .has excellent finger coordination and a keen mind. He has become very interested in the business skills and has been allowed to progress as rapidly as he can. He now types 89 w.a.m. and has learned other business machines in independent study. With his teacher's help, he has found a summer job in an office where he is expected to do very well. Others in the same class with him have different programs ranging from personal use to vocational competence.

3. the Individual Curriculum which provides opportunities for individual students to pursue their diverse interests and develop their unique talents.

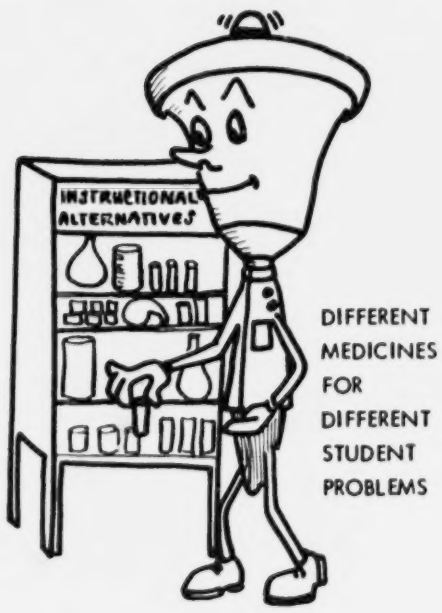
A 7th grade English teacher noticed that her class openly classed two girls as "dummies", and the girls unhappily accepted the label as correct. Diagnostic reviews showed that they were very conscious of only being able to read on "baby levels." Their understanding and ability was far more advanced than their reading ability. The teacher suggested a project involving several interesting poetry stories. "We can't read all that," they dejectedly told her. "We can together," the teacher replied. "I don't like to read alone, myself." A poetry and literature group was formed that became a real status in the class. With the teacher doing the reading and the girls following, they read stories and poems that stimulated and thrilled them all. When they finished Sir Walter Scott's "The Lady of the Lake" and the girls reported on it, the whole class was impressed! The progress the girls made in English was greatly accelerated by their improved self-concepts. As soon as a way was found to allow them to progress in other language arts areas without the albatross of non-reading hung around their necks, they were found to have great ability. The girl the class had advised the teacher to forget because she was "stupid" won the school short story award that year!

The approach to individualization may be somewhat different with each of these three types of curricula. When students are pursuing the individual curriculum the appropriate role of the teacher is to provide the appropriate spaces, materials, time, and encouragement and then get out of the student's way so he can learn. It is also important, however, that students have the opportunity to learn with others who have similar needs, interests and abilities. Arrangements should be made and appropriate learning experiences should be planned that will encourage students with similar educational needs to work together.

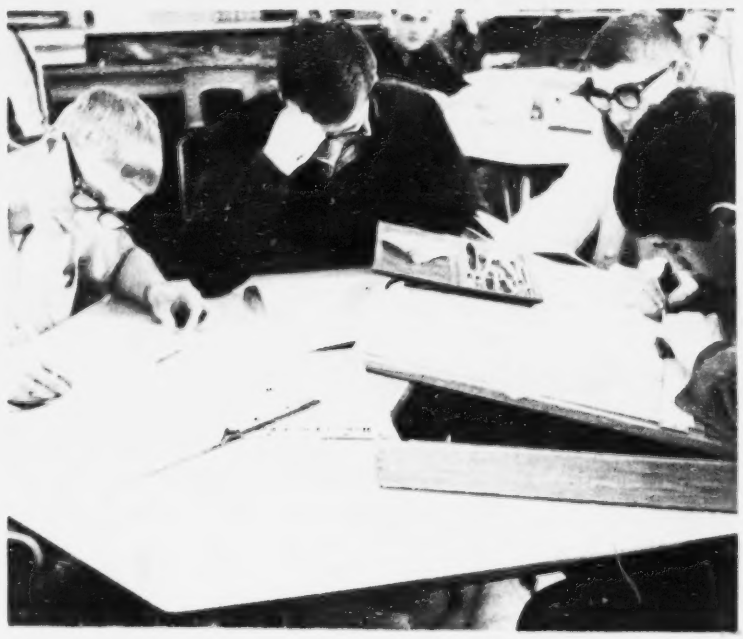
Many students will have similar interests and abilities and will be most happy working in conjunction with others to reach their goals. It will be essential, however, that a teacher sit down with each student and help him structure his study program.



Carol had a great deal of ability and an intense interest in a variety of fields. She wanted to take several electives that conflicted with desired classes in science and mathematics which were needed for college preparation. She structured her own course to include classes in band, chorus, drama, and art; with the help of understanding teachers, she also took individually programmed courses in geometry and physics. During her senior year, she took eleven separate classes of varying time and work requirements; she won the best actress award for the year, and was voted the most valuable member of the girl's marching group. Her very full program met her individual needs, but would probably not have been right for anyone not having her desires and abilities.



Because each student possesses his own peculiar combination of needs, abilities, learning rate, learning style, goals, aspirations, etc., it is important that the school provide a number of alternatives for moving students toward each objective whether that objective is common to all, a few, or appropriate for a single individual. These alternatives may be constructed from a combination of variations in content to be learned, method of instruction, materials to be used, rate of progress, size of learning group, and tasks to be performed. Schools have not made adequate provision for individual differences when they have only allowed for students to proceed at different rates through a common learning program such as a text book or programmed course. Rather, there should be developed for each course a "pharmacy of educational alternatives," (Goodlad) from which the teacher and student, planning together, can develop a study program uniquely designed for each student.



In addition to progressing in the traditional areas prescribed by the school, students who are able to have a voice in their curriculum often expand into areas of special interest. A group of boys may show a growing interest in cooking; social and modern dance as well as other recreational areas are very popular; electronic projects in the building of radio and stereo equipment begin to appear; even a group of motor scooter enthusiasts may want a class in small engines. In every case, the appropriate curriculum and materials for each student are the ones which fit his individual needs.

THE CONTINUOUS PROGRESS CURRICULUM

Many of the basic ideas developed at the Brigham Young University Laboratory School for providing for the continuous progress of students with varying capacities for learning have been adapted by WSSSP to the small school situation. One of these ideas involves the development of a continuous progress curriculum. This is conceived of as a "sequential" curriculum of concepts, symbols, skills, and habits, free of artificial barriers such as grade levels and promotion dates, through which students can progress at their own best paces."

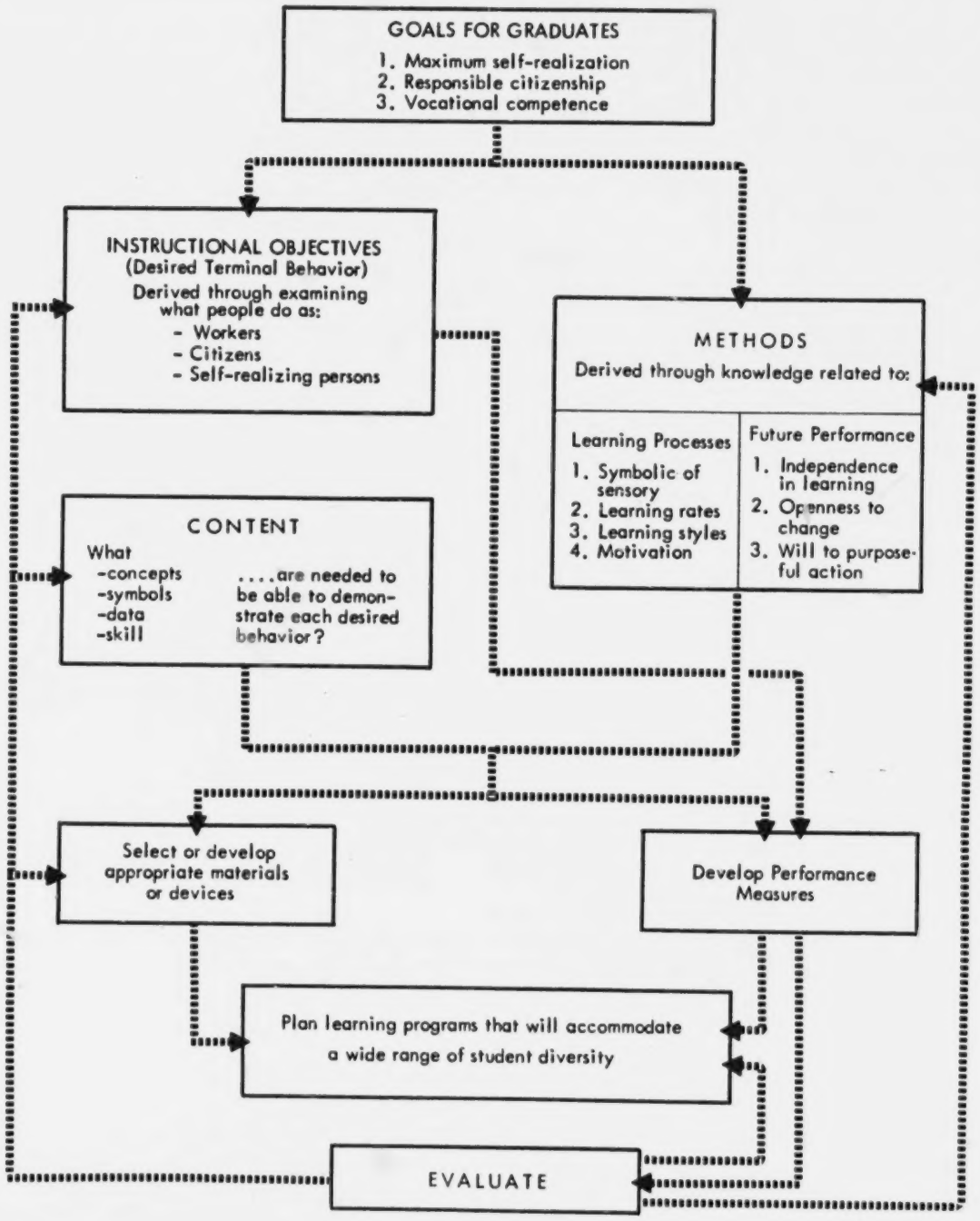
This assumes that there is a core of common learning that can be sequential, ordered and which should be learned by all. Provision for individual differences comes through allowing students to progress at rates in keeping with their individual capacities and by providing unlimited opportunities for students to have additional learning experiences in related learnings which are open to students who have the interests and inclinations to pursue them.

AN APPROACH TO CURRICULUM DEVELOPMENT

Such a curriculum may be best constructed by (1) determining what behaviors are desired; (2) deciding what sequence of objectives is best; (3) listing for each desired behavior the concepts, skills, and data necessary for its demonstration; (4) determining the content, materials and methods most appropriate to the learning of the requisite concepts, skills and data, and finally (5) developing performance criteria which will permit students to demonstrate what has been learned.

The diagram below attempts to illustrate graphically the sequential flow of activities and considerations necessary to the development of an appropriate curriculum for individualized instruction.

A MODEL FOR CURRICULUM DEVELOPMENT



This kind of curriculum development obviously requires some special kinds of training. Involved in such training would seem to be the following:

1. Knowledge of the overall aims or objectives of education which reflect the educational aspirations of society for its young.
2. Knowledge of the nature of the learner - his likeness and diversities.
3. Knowledge of learning theory and processes of education.
4. Understanding of the structure of various classifications of content.
5. Skill in stating instructional objectives in behavioral terms.
6. Knowledge of a wide variety of materials, devices and learning experiences.

STUDENT STUDY GUIDES

An important factor in the success of any approach to individualizing instruction is the degree to which students can be encouraged to accept a large share of the responsibility for their own learning. Such an approach will not only encourage responsibility and initiative on the part of the student but will free teachers for planning and work with individuals and small groups of students.

No matter what type of curriculum organization is employed it is essential to prepare and place in the hands of students those instructions he will need to guide him in the next set of learning arrangements that have been planned for him. Such a student study guide will indicate the objectives to be achieved, and the way his progress may be demonstrated, and will provide the student with an outline of the topics to be covered together with a list of the source materials he may need to reach the objectives.

When instructions are explicit and easily understood the student is free to pursue his study more independently than when he must have continuous or frequent directions from the teacher. Therefore, carefully prepared student study guides have been found to be an important arrangement for independent study and self-instruction. When they are developed jointly by the teacher and students the objectives of the learning tasks ahead are more likely to become the student's own and his commitment and interest will increase.

THE MULTI-PHASED CURRICULUM

The organization of the curriculum into "phases" is an approach that was developed in the Melbourne High School, Melbourne, Florida. (B. Frank Brown). Under this arrangement a different curriculum is planned for (1) students who need special assistance, (2) students who need more emphasis on the basic skills, (3) the student of average ability, (4) students capable of education in depth, (5) students who will to go far beyond normal study opportunities.

Under this kind of arrangement students are placed temporarily in learning situations that are appropriate to each of these curriculum phases. One student may remain in a phase indefinitely; another may soon find a different phase more suited to his needs. Mobility between phases is a prime factor in the maximum utilization of this approach to curriculum organization.

Following are typical schedules of three students of the same age but with widely varying abilities:

Student A

English	Phase 1
Mathematics	Phase 3
World History	Phase 2
Biology	Phase 3
Physical Education	Phase X
Typing	Phase X

Student B

English	Phase 3
Mathematics	Phase 2
American History	Phase 4
Chemistry	Phase 3
Band	Phase 4

Student C

English	Phase 4
Differential Equations	Phase 5
History of Asia	Phase 3
Physics	Phase 5
Spanish	Phase 4
Probability & Statistics	Phase Q*

B. Frank Brown has developed the concept of the phased curriculum at Melbourne High School as a means of realigning students for nongrading. Youngsters at Melbourne High School have been reclassified according to their levels of achievement. They have then been assigned according to their levels of achievement to fluid learning situations in each subject known.

Great opportunities for individualization exist in the humanities and vocational classes where skills often vary a great deal.

* Quest Phase

MATERIALS FOR INDIVIDUALIZING INSTRUCTION

If instruction is to be individualized both teachers and students need some kinds of materials that are not usually available in the traditional classroom. These include the following:

1. Placement Test. This test is based upon the various sub-objectives to be taught in a given course. It contains two or more items covering each of these sub-objectives, and the student is encouraged to do as many of these as he can. When scored, this test provides a record of which of the sub-topics to be covered by the course each student already knows and which topics still need to be covered. The total score has no particular value. What the test does is tell the teacher where the student should begin his learning.

2. A Sequence of Objectives. This is a master list, available to the teacher, indicating the terminal behavior students are expected to exhibit at the end of each learning sequence within a course. They are arranged in a pedagogically sound sequence. They cover exactly the same behaviors measured by the Placement Test.

The Sequence of Objectives Chart contains objectives to be reached by every student as well as some additional ones which can be used for individuals and groups having special needs and interests. The chart is used by the teacher as a means of choosing a proper "next" assignment for each student.

3. Study Material. A set of appropriate study materials (or alternative sets) is provided for each learning sequence outlined on the Sequence Objectives Chart. Each set will contain some or all of the following types of materials:

(1) An outline of objectives to be reached.
(2) Pages of printed and illustrated text material (programmed or otherwise)
(3) A list of several reference books.
(4) Outlines of practice exercises to be performed.
(5) Appropriate laboratory exercises for applying concepts with clear instructions and suitable materials and equipment.
(6) Magnetic tapes to be listened to.
(7) Films and filmstrips to be viewed.
(8) Discussion guides.
(9) Other instructions.

These study materials should be suitably arranged, indexed on shelves, or on portable charts and in other ways made easily available to students.

It is important that the objectives of each assignment are clear to the student. The ways in which he will be expected to demonstrate what he has learned should be specified at the beginning of the assignment. Such a procedure will go a long way toward motivating the student and making him an independent learner.

When study materials are carefully selected and intelligently prepared much of what a student is to learn can be turned over to materials and devices. Not only does this permit the teacher to find the time necessary to work with small groups and individual students but the important goal of helping students become independent in their learning is promoted.

A variety of instructional materials and devices have been used successfully in small schools within the project.

4. Performance Measure. A performance measure is given at the end of each assignment, when the student says he is ready. It is designed to permit the student to demonstrate what he has learned. It is designed to match exactly the terminal behavior outlined on the Sequence of Objectives chart and the Outline of Objectives provided the student. There will need to be alternative forms of these measures for use at different times with different students. Its purpose is to determine whether the student should go on to the next learning sequence or should be provided some additional learning experiences within the present unit or topic.

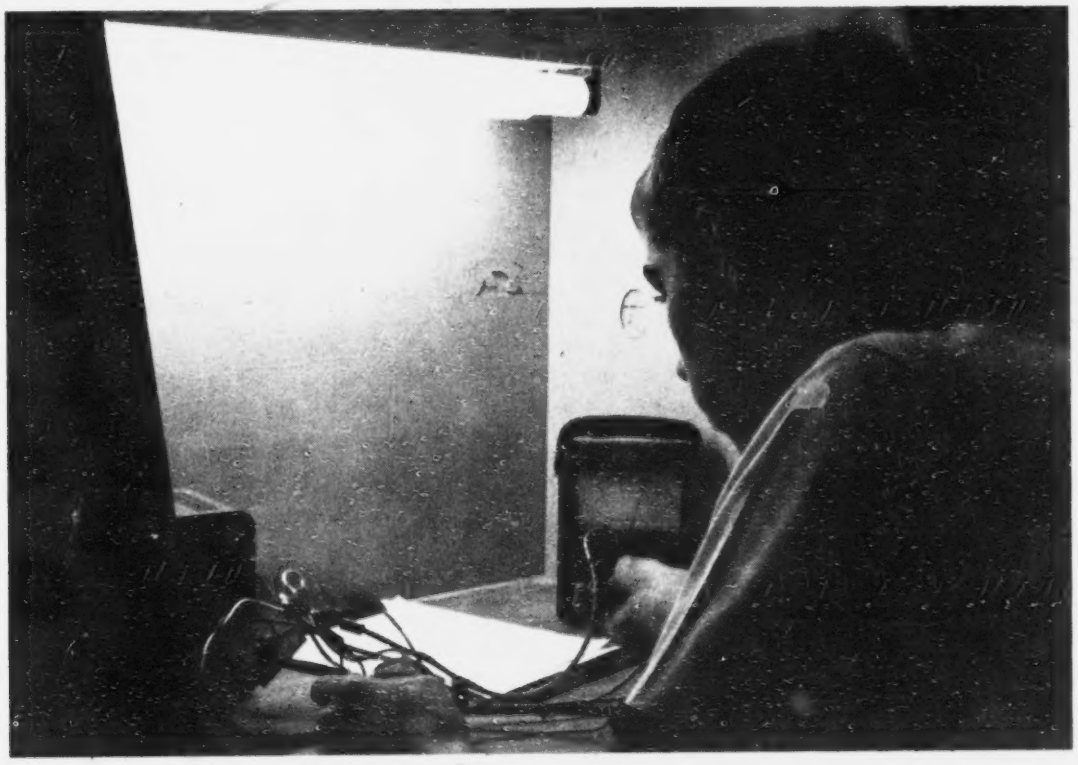
5. Student Record Card. Because individual class members are working at a variety of levels and at a variety of tasks and because a deliberate attempt is made to personalize the curriculum a record of each student's progress and background is essential. The Student Record should ideally contain a good deal of background information, including such things as his career aspiration, previous academic history, etc. The record also shows the student's record on the Placement Test, and his achievement of each topic contained in the Sequence of Objectives as measured by the Performance Measure. The record provided a continuous record of the students demonstrated progress.

INDIVIDUALIZING SCIENCE INSTRUCTION IN SMALL SCHOOLS BY THE USE OF "MINI-LABS"

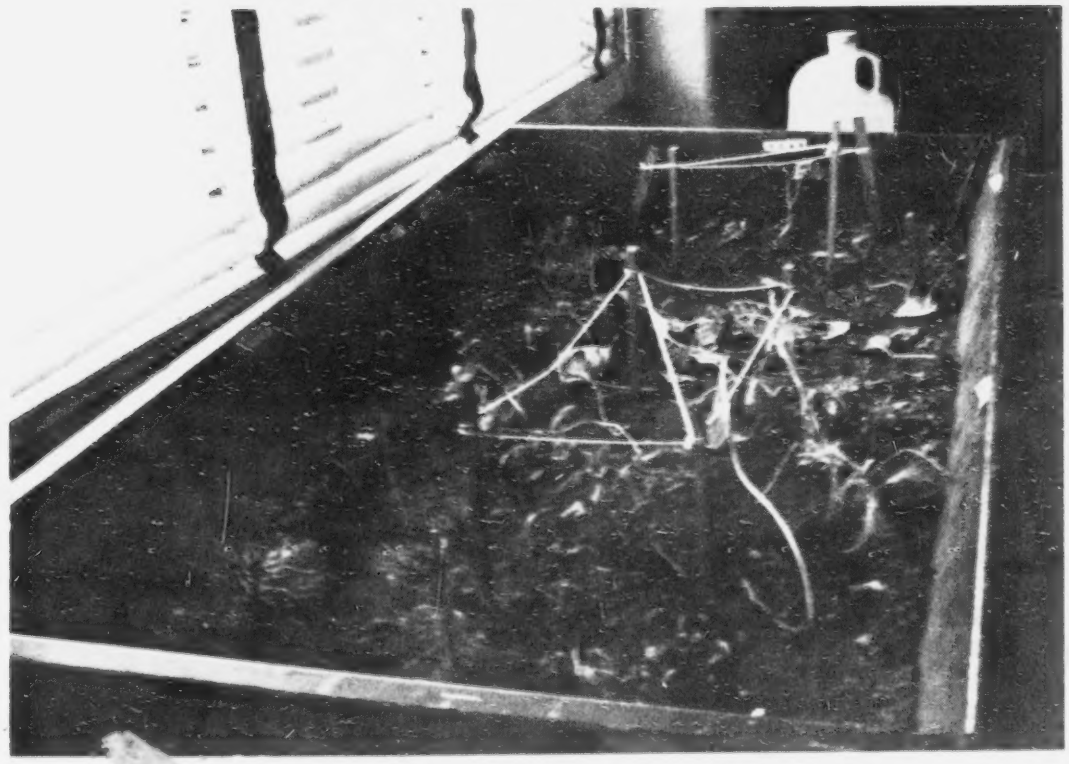
Mini-lab, as the name implies, is a small, flexibly-designed cubicle, containing storage space for equipment and necessary physical facilities. The equipment and facilities will be of a variable nature, depending upon the type of research in progress by the student.

Ideally, the Mini-Lab would be designed to use in only one project, by one or two students at a time.

Through the use of the miniature laboratory, the student can pursue the idea or problem which interests him, with individual help from the instructor, and without the usual interference from other classes using his equipment, storage spaces, or physical facilities.



A cubicle-type of Mini-lab being used for electronics research. Storage space for equipment is below the cubicle.



An extreme example of miniaturization. This is a micro-climate set-up for research on seed germination.

SECTION 3
Administrative Arrangements

ADMINISTRATOR
DECISION .....

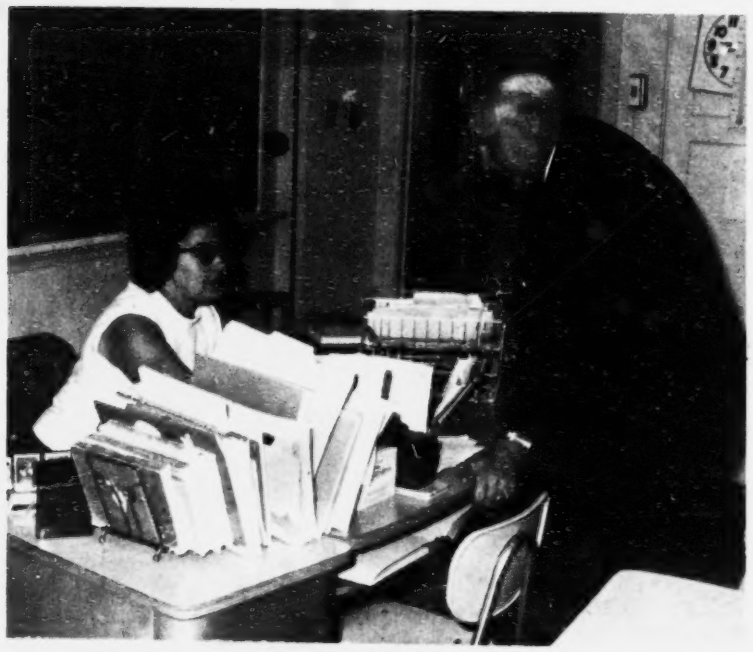
INTRODUCTION

A variety of organizational and administrative practices within a school have an effect on attempts to deal with individual differences. In project schools administrative arrangements have been studied critically as to their effect on individualization efforts. Those administrative procedures which have indicated the most promise have been identified and are described herein.

The successful implementation of any plan to individualize instruction is largely dependent, in the beginning, upon an awareness, on the part of the school administrator, of a genuine need to provide instruction that will help youngsters learn and mature more efficiently in terms of their individual potentials. There must be a recognition on the part of the school administrator that "no matter what difficulties they make for schoolmen, individual differences are real, inevitable, ineradicable, desirable, and indeed essential." (Tyler 1962)

However, it is rarely possible for an innovation as complicated and involved as individualizing instruction to be introduced by means of an unilateral decision. Other administrators, teachers, board members, lay leaders, and students must be involved. It is possible, however, that an administrative decision can be made as a result of a felt need in the school to cooperatively study the purposes, operation and feasibility of the innovation. This decision, so it appears, should be made initially by the administrator. In essence, this represents a tentative decision "to find out more about individualizing instruction."

IN-SERVICE EDUCATION OF STAFF



Once the tentative decision for change has been made, the next steps should involve a fairly comprehensive study and orientation program. Such orientation should include:

(1) faculty wide in-service programs
(2) visitations by the faculty to other schools
(3) utilization of consultants who come to the school to work with faculty.

These will take place only if the school administrator organizes and promotes such orientation activities. Only if the faculty is properly trained in practices and procedures for the individualization will sound instructional programs that recognize student diversity be implemented. The following practices related to inservice education of staff have been found useful in project schools:

1. Administrators have provided opportunities for his staff to visit other project schools.
2. Administrators have encouraged visits to his schools by personnel from other project schools.
3. Administrators have provided workshops for his staff for training in the new practices.
4. Consultants have been brought into the school to help the staff to plan for and implement new practices.
5. Project directors have been called upon to encourage and help the staff in individualizing instruction.
6. Workshops have been held wherein individualized instruction and procedures have been used with teachers.

7. Administrators have been on the alert for published materials dealing with individualization. Such materials have been marked and distributed to the staff for perusal.

8. Administrators have encouraged visits by their staffs to university laboratory schools and other exemplary programs throughout the nation.

9. Administrators have made use of faculty meetings in helping the staff in individualized programs.

10. In some schools in-service days have been held.

11. Administrators have encouraged the use of amplified telephone to provice in-service classes from distant universities and to provide staffs the opportunity to communicate with teachers elsewhere.

12. Time has been provided teachers to develop materials for individualized program

13. Arrangements have been made for innovative teachers to help other teachers on the staff.

14. Project directors and selected staff members who have investigated promising practices in school improvement throughout the nation have shared with project personnel the results of these investigations.

CLIMATE FOR CHANGE

Change will be undertaken and innovation flourish only in a safe atmosphere where changes and innovation to improve instruction are valued. Creating such an atmosphere in the school is one of the significant responsibilities of the school administrator. He must not only be ready to protect and give a degree of security to those who are active in innovation, he must also evidence recognition for the innovator.

Because programs that individualize instruction tend away from the traditional teacher-controlled classroom situation, teachers may fear that the "new look" in their classrooms may be interpreted as signs of weakness and inability to control. Principals must somehow develop within a school an attitude which is supportive of change and is understanding of the difficulties that often accompany change particularly during the period of adjustment to new practices. The following practices related to creating a climate for change have been found useful in project schools:

1. Administrators have talked new programs with staff members and have taken care to verbalize their approval of the efforts teachers are making.

2. Administrators have arranged for pictures to be taken of innovative teachers and their pupils in action.

3. Innovative teachers have been assigned to help other teachers build a program.

4. High School students have been assigned to elementary teachers as aides.

5. Administrators have arranged for staffs to visit other exemplary programs and have encouraged visits to their own schools by teachers from other areas.

6. The focus of supervision has been changed from observation and analysis of teacher activity to attention to student activity. The focus is on learning rather than teacher action.

7. Evaluation of pupil progress has been made in terms of the student's perception of his progress in light of his perceived goals.

8. Administrators have worked with Boards of Education and gained support prior to attempting change.

COMMUNITY SUPPORT

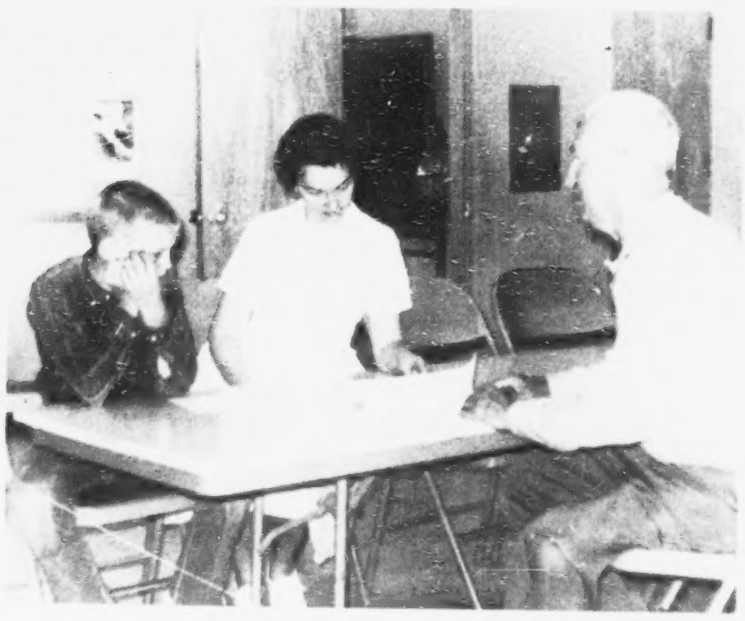
The interpretation of the innovative practices to the community is another responsibility that must be performed by the administrator. The faculty must be protected from attacks by lay people that will tend to make them retreat to better understood and better supported practices. Teachers involved in change must know they have the full support of the school administration. These practices used in developing community support have been useful in project schools:

1. Administrators have encouraged the use of reresource persons from the community in the individualized programs.

2. Parent-teacher conferences have been used to interpret new programs to the community.

3. School projects and new programs have been featured in newspapers and magazines.

4. Newsletters have been used to interpret programs. In one school such a newsletter printed in Spanish as well as English has been mailed regularly to every post office box in the district.



5. Parent-teacher association meetings have been used as a vehicle for providing information about and making plans for new programs.

6. Teachers involved in individualized instruction have been given opportunities to talk over their programs with boards of education.

7. Administrators and teachers have talked with and sought the advice and help of service and community clubs and groups in developing and implementing individualized instruction practices.

8. Opportunities for discussing the new programs are actively sought and exploited. Dedication programs, school programs, census taking, etc., have been used.

9. Parents have been invited to the school to observe individualized programs in action. In groups of four to eight, parents have looked at the program, then have been given an opportunity to discuss with the administrator and teachers their reactions.

10. School Board members have actively supported the new programs in the community and have played a vital role in its interpretation.

MATERIALS, EQUIPMENT, AND FACILITIES

As important as providing support and in-service educational opportunities for the faculty is the provision, by the administration, of the necessary materials, equipment, facilities, and staff for implementing the individualization programs developed by the faculty. These practices used in providing materials, equipment, and facilities have been useful in project schools:

1. Administrators have responded favorably and promptly to teacher requests for materials and equipment.

2. Administrators have been imaginative in acquiring funds for materials as well as in acquiring the materials.

3. Administrators have become acquainted with sources of materials and equipment and have shared this information with staffs.

4. Administrators have encouraged teachers to become acquainted with new media and materials as well as these sources.

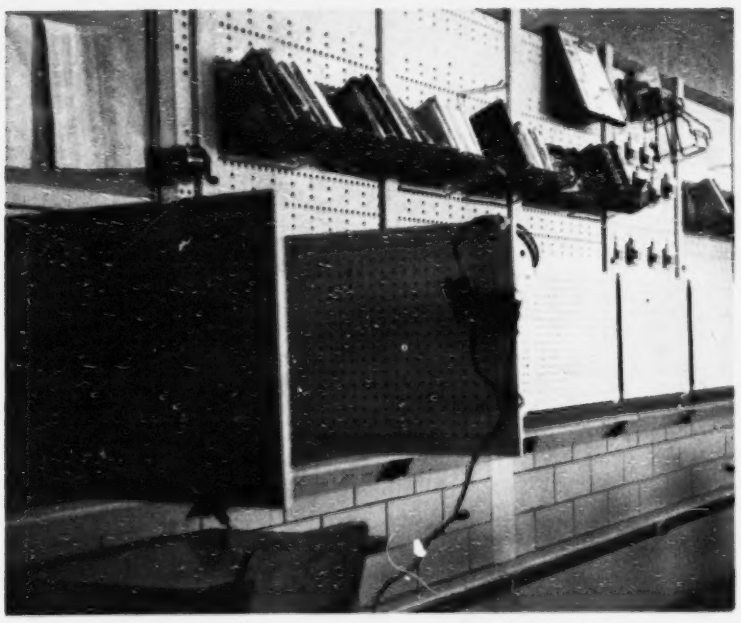
5. Administrators have arranged media and materials demonstrations and workshops.

6. Administrators have located and provided teachers with catalogues and lists of materials.

7. Administrators have anticipated needs for materials and equipment and arranged for some necessary items to be available even before needed.

REPORTING PUPIL PROGRESS

Schools, regardless of size or location, have long been concerned with ways of depicting pupil progress or growth. Basically, the schools have attempted to provide a vehicle, or a series of vehicles, by which parents of children, as well as the children themselves might be better informed in relation to the achievement, or growth, of the pupils themselves. Additionally, schools, over the years, have recognized the very real need of establishing effective lines of communications among themselves, and this, in turn, has provided another dimension to the reporting of pupil progress. Still, and even after centuries of experience, the concept of pupil reporting, as we know it, is not adequate in terms of that which the term denotes—that of actually reporting pupil progress.



Traditional grading practices, or pupil reporting systems not only fail to accomplish the basic purpose as noted above, but they also contain inherent factors which can actually hinder and determine efforts designed to foster individualization of instruction. For example, traditional grading practices, while not necessarily built upon it, contain the concept of failure, and this in turn may well negate the concept of progress. Traditional pupil reporting procedures do not, as a rule, contain adequate provisions for the demonstration of the competencies which have been acquired by the pupil; such acquired competencies should be considered as hallmarks of pupil progress. Even more damning, perhaps, is the lack of provision, in the traditional reporting procedure, for the true recognition of the wide range of pupil talents, pupil interests, and pupil abilities.

Project schools that have designed and implemented programs featuring individualization of instruction have developed a variety of practices to deal with this problem. While specific practices differ (some of these are reported below) certain generalizations can be drawn from the experience of these schools:

1. Traditional, five letter grades, in effect comparing one student with another, are not only ineffective in reporting pupil progress in an individualized program, but are inappropriate and detrimental to the program.

2. Reporting is neither a greater or lesser problem in the school featuring an individualized program than in the school with the traditional program; however, in the latter case a reporting system compatable with the objectives of the program must be developed whereas in the former case reporting procedures may go on unexamined for years.

3. Reporting practices should make it possible to report student growth in terms of each student's own abilities.

4. Record keeping must be sufficiently sophisticated to allow pupils and teachers to assess accurately student progress at any time.

5. Grade norms are unimportant when each child is viewed as a unique person with abilities, needs, and potentialities different from those of other children.

6. Since the purpose of reports to parents is to inform them of pupil progress, reports to parents are descriptive in nature and very thorough with little or no emphasis on judgments.

7. Reports of pupil progress are made in terms of the objectives of the specific course in which the progress is being made.

The following practices have been used in project schools in reporting pupil progress:

1. Regularly scheduled parent-teacher conferences where parents learn of students progress, where he is at any particular time, and estimates of future progress are used in some project schools.

2. Personal student teacher interviews, regularly scheduled or as needed, for progress evaluation are used in some schools.

3. A performance expectancy based on past grades or achievement scores, I.Q., teacher judgment, or a combination of these, mutually established by stu-

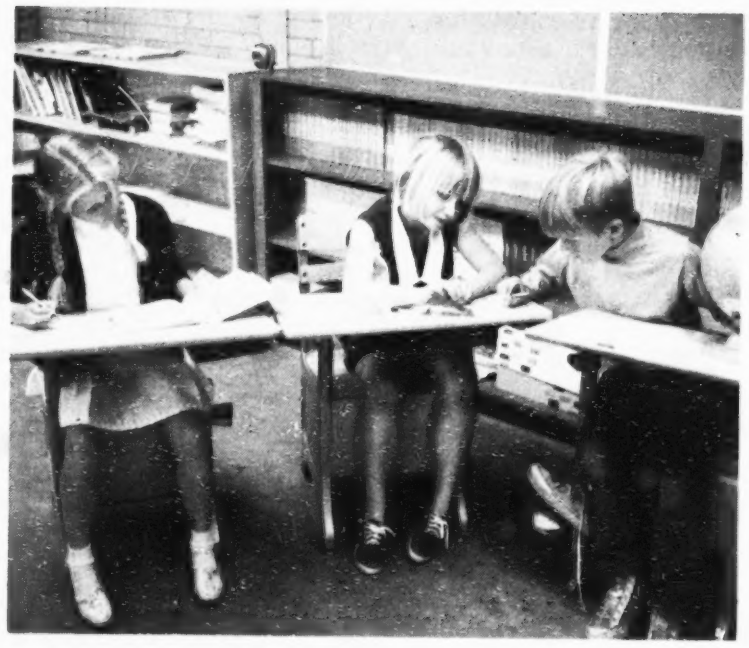
dent and teacher is used by some schools, and pupil progress is reported in relation to this performance expectancy.

4. Some project schools require each student to keep a daily or weekly record of his progress on a graph. In some, this record is related to the performance expectancy of the students.

ORGANIZATIONAL PATTERNS AND PRACTICES

Project schools in Western States Small Schools have used several approaches to organizing the small school to facilitate individualization of instruction. While a degree of individualization may be realized under most organizational schemes, some patterns seem to encourage, even demand, individualization where others discourage such efforts. Based on the experience of WSSSP project schools, those practices reported here appear to be the most promising for promoting individualization in the small school. As a general pattern a school with a non-graded vertical structure, providing a continuous progress curriculum, flexibly scheduled as to student and teacher time, horizontally structured for large group, small group and individual instruction based on student needs, and utilizing the best potentials of the staff through team teaching would provide the most encouragement for an individualized program. While none of the WSSSP project schools incorporate all of these practices within a single school, all are found in WSSSP schools.

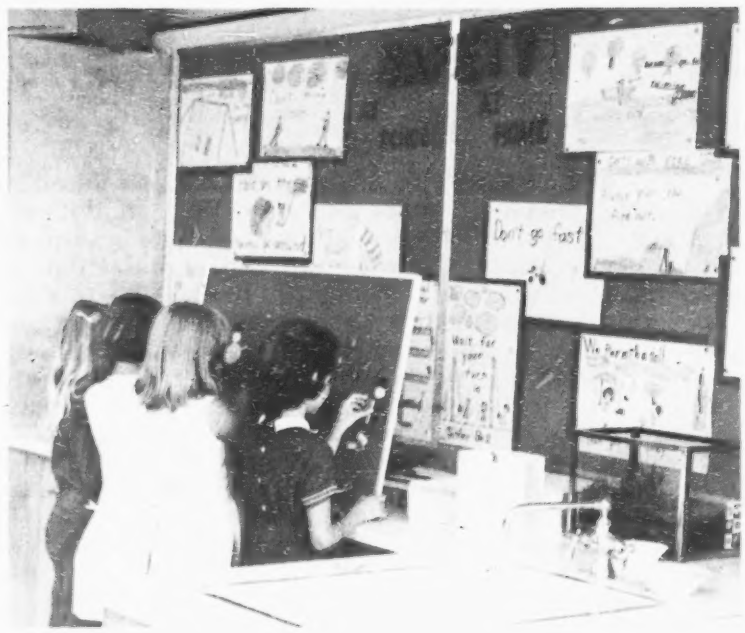
In some schools all pupils 10 through 12 or 7 through 9 grades in a subject area, English and/or mathematics, are combined for instruction at the same time. A team of teachers, para-professional readers, and clerical help is assembled to guide and instruct the group. The curriculum is organized on a continuous progress, nongraded basis with each pupil pursuing the course at his own rate and in materials appropriate to his needs and abilities. The program makes use of large group, small group, independent study, and self instruction; however, in these schools large group instruction is infrequent and most work takes place in small group or individual situations with or without teacher participation. Small groups are organized on the basis of



common needs and are temporary in nature. They vary in size from two or three up to fifteen pupils. In these schools the role of the teacher has changed dramatically as is pointed out in Section IV.

In some schools an attempt is being made to organize time to meet individual student and teacher needs. A number of schools in WSSSP have developed modular, computer generated, flexible schedules. These provide for varying lengths of time for the individual student to pursue individual projects and independent study. At least one WSSSP school uses a daily changing, hand generated, flexible schedule. Some schools now using the computer generated schedule plan to try a hand scheduled, modular schedule in the future. Most believe that in a small school this is feasible. A more complete discussion of flexible scheduling is found in the WSSSP publication "Scheduling for Flexibility in Small Schools." (WSSSP 1966)

In some schools a nongraded continuous progress elementary program has been organized.



STUDENT PROGRAM

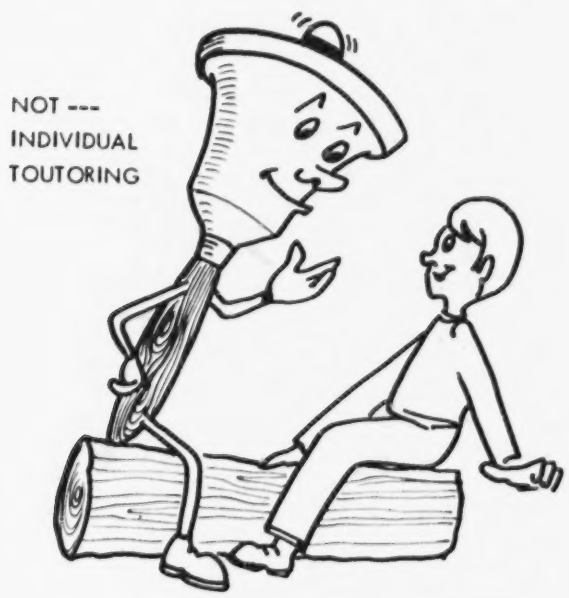
Teacher Assignment

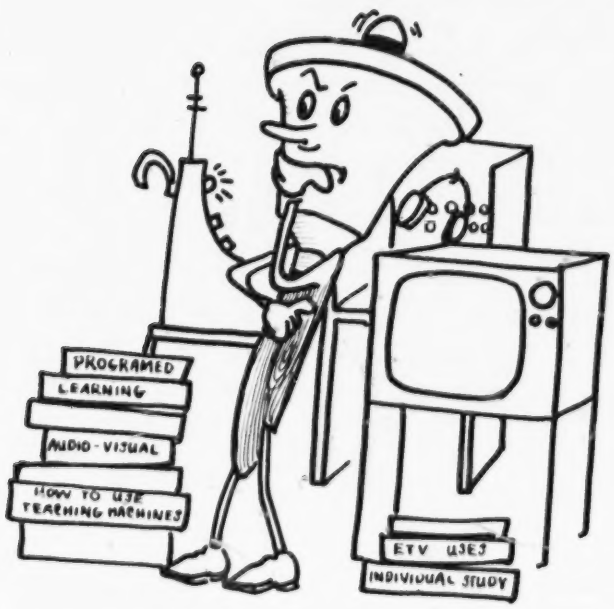
PD	MONDAY			TUESDAY			WEDNESDAY			THURSDAY			FRIDAY		
	COURSE	ROOM	TEACHER	COURSE	ROOM	TEACHER	COURSE	ROOM	TEACHER	COURSE	ROOM	TEACHER	COURSE	ROOM	TEACHER
1				Tennis 816	Sci					Tennis 816	Sci		Phys 434	Sci	
2				Tennis 816	Sci					Tennis 816	Sci		Phys 434	Sci	
3	Sci 467	Sci		GSci 439	Sci		Sci 467	Sci		GSci 439	Sci		Sci 467	Sci	
4	Sci 467	Sci		GSci 439	Sci					GSci 439	Sci		Sci 467	Sci	
5				Phys 434	Sci					Phys 434	Sci				
6				Phys 434	Sci					Phys 434	Sci				
7				Sci 407	Aud					Sci 407	Aud		Alg 301	Sci	Sec I
8				Phys 404	Aud					Phys 404	Aud		Alg 301	Sci	Sec II
9	LUNCH			LUNCH			LUNCH			LUNCH			LUNCH		
10	Alg 361	Sci		Biol 462	Sci		Alg 361	Sci	Sec I-II						
11	Alg 362	Sci		Biol 462	Sci		Alg 362	Sci		Alg 362	Sci		Alg 362	Sci	
12	Alg 362	Sci		Biol 462	Sci		Alg 362	Sci		Alg 362	Sci		Alg 362	Sci	
13				Biol 432	Sci					Biol 432	Sci				
14				Biol 432	Sci					Biol 432	Sci				
15	Alg 301	Ssi	Sec I	Alg 301	Sci	Sec II	Alg 301	Ssi	Sec I	Alg 301	Sci	Sec II	Alg 301	Ssi	Sec I
16	Alg 301	Ssi		Alg 301	Sci		Alg 301	Ssi		Alg 301	Sci		Alg 301	Ssi	

Student Program Card in a modular flexible schedule

SECTION 4
Instructional Procedures

The individualization of instruction has reference to steps taken to meet the needs of individual pupils. While the steps taken will include organizational procedures, the selection and organization of content and other arrangements, the success of any program to individualize instruction will depend upon the ability of the teacher to create situations in which pupils will work and be considered as individuals. In no sense, however, should "individualizing of instruction" be equated with "individual teaching" or tutoring. Realistic adjustment to differences within the classroom requires that both group and individual instruction be carried out. It should be obvious that there would be no way to individualize instruction if students were not assembled in groups. The group provides more than a background for the instruction of the individual, it gives meaning and substance to individuai effort. (Jensen 1960)

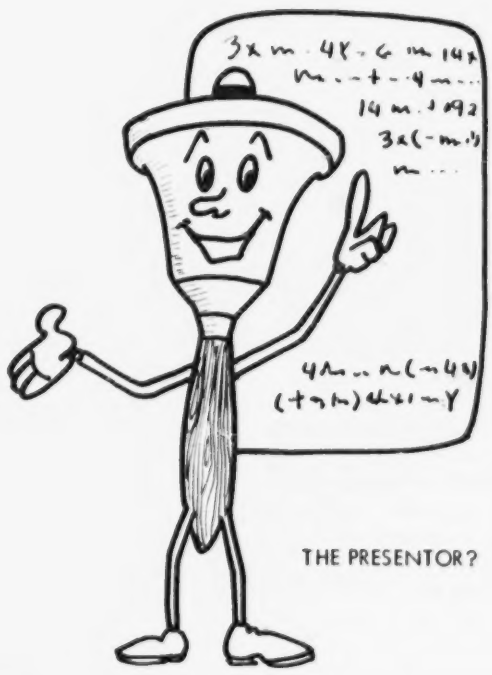




TO AID, NOT SUPPLANT

The basic assumption of WSSSP efforts to individualize instruction is that the entire effort succeeds or fails on the quality of the instructional program, and, of course the key to a quality instructional program is the effective teacher. Materials centers, scheduling arrangements, grouping, improved facilities, curriculum guides and administrative practices are only devices to facilitate teachers. Only as the teacher utilizes the resources available to him in planning instructional strategies adjusted to the individual needs of students, can we hope to make progress in developing the potential of the students who attend small rural schools.

I. A ROLE FOR TEACHERS THAT FACILITATES INDIVIDUALIZATION



Providing for individual differences calls for the creation of an educational climate in which the phychological complexities of both the student and the teacher are recognized and respected.

In our efforts to view and treat students as individuals it must be recognized that teachers too are individuals and as such present a wide variety of intellectual and psychological traits that uniquely suit them for successful performance in different kinds of teaching situations and with different kinds of students.

A fundamental idea that has a profound effect upon the teacher's behavior is embodied in the proposition that good teaching is that which increases the opportunities for self-learning. Such a proposition does not make the function of the teacher less important but rather enhances it. Instead of being a presentor of information, the teacher shifts to a role which involves making some important decisions, continually, about what a student should do next, where he is headed, how he is doing and others of this general nature. In addition, the teacher's role as an adult mentor, guide and model takes on added importance. Instead of

working in a single classroom where he instructs a group of 25 or 30 students who are pursuing a common course of study, the teacher becomes an organizer and director of learning which is taking place in a number of locations and with students engaged in a variety of learning activities. The scheduling of these groups is a flexible matter and depends upon the teacher's judgment or the student's perceived needs for assistance.

THE PLANNER!

Because the teacher functions differently in each of these instructional situations different combinations of competencies, talents and training are required to perform effectively. Therefore, some teachers who may succeed well in large group instruction may feel quite inadequate in working with individuals or small groups. For this reason, several project schools have organized teaching teams composed of teachers whose competencies complement each other. However, in-service education programs should help all teachers develop the ability to work successfully in a variety of teaching-learning situations.

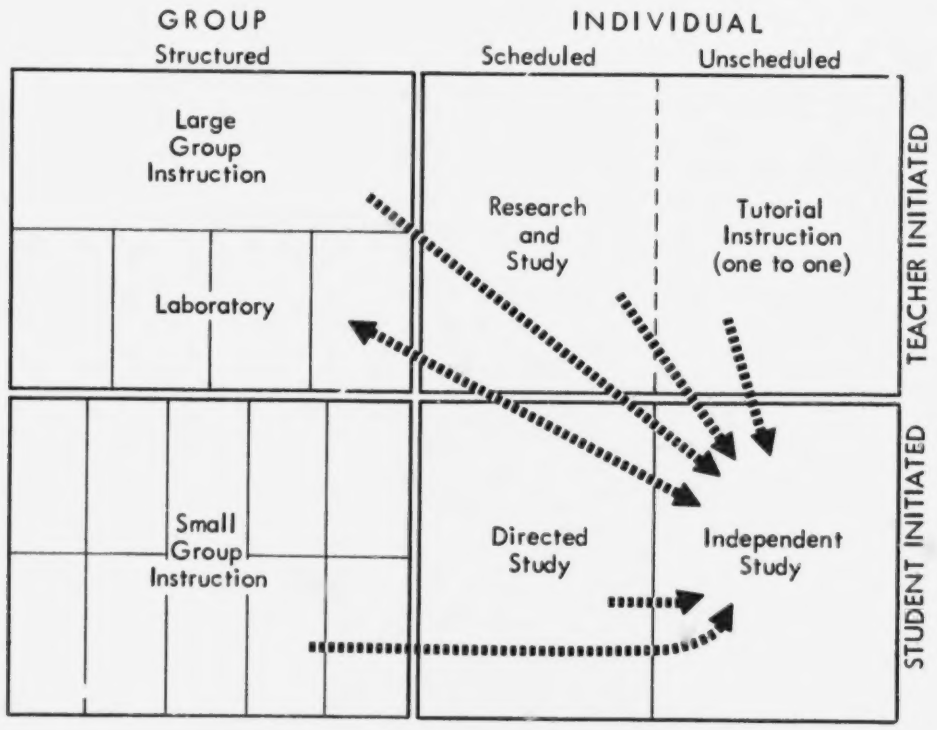
Following is a brief description of some of the unique arrangements that have been made in small schools that permit the maximum utilization of the talents and strengths of each faculty member and which promote instructional practices that recognize, value and deal with student diversity.

INSTRUCTIONAL ARRANGEMENTS THAT ACCOMMODATE STUDENT DIVERSITY

Flexible schedules have made it possible for the school to provide a variety of instructional arrangements. These include large group instruction, small group instruction and laboratory application. In addition students are allowed time to engage in individual study. Individual study may be teacher initiated - assigned research and study or tutorial instruction - or it may be student initiated independent study.

Each of these instructional arrangements has its own unique and distinct purpose and mode. Each has a relationship to the others and a proper blend of large group instruction, small group instruction, and independent study enables the small school to provide for each student the combination of learning situations most conducive to his optimum development.

The diagram below presented by Don DeLay at the 1966 WSSSP Summer **Workshop** in Vail, Colorado, illustrates the way these various instructional arrangements may be organized and how they relate to each other.



Because the development of independence in the learner is a central goal of the school, independent study is the star of the show and each mode of instruction should be organized to provide incentive and purpose to independent study.

LARGE GROUP INSTRUCTION

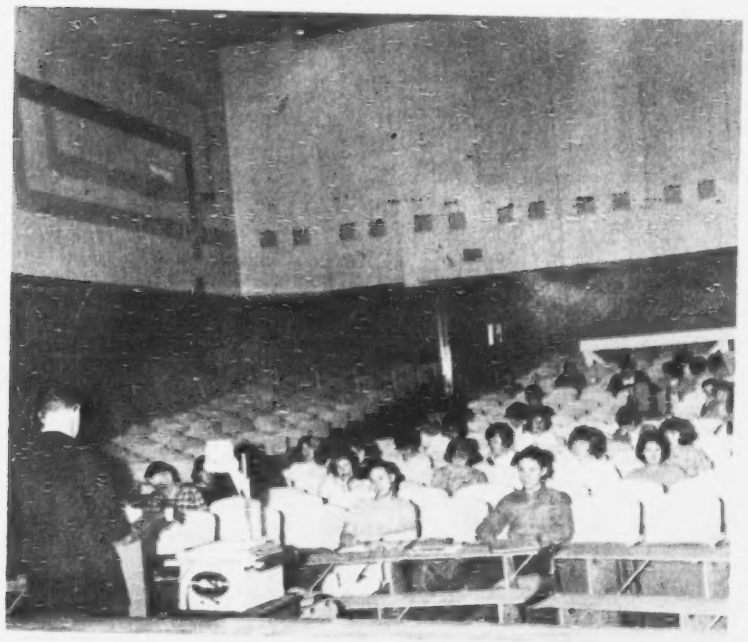
Large group instruction is a term which generally is misused to refer to the size of the instructional group. Perhaps, however, it would be more accurately described as a method of instruction. The size of the instructional group should be determined by the purposes to be accomplished and the instructional mode should serve to accomplish these purposes. Thus, the instructional procedures for a large group will differ sharply from those employed in small group instruction because the purpose is different.

Large group instruction is characterized by:
(1) the attention of the members of the group is focused upon a common source.
(2) there is an absence of interaction among the members of the group.
(3) there is little opportunity for overt interaction between audience and presentor.

Large group instruction is an appropriate instructional procedure when all students in the group are in need of the instruction being given or when a broad general experience can be provided which can then be differentiated into meaningful learning esperiences for individual students. Large group instruction may also serve well when the psychological effect of the large group is important, eg., group emotional reaction to a great play or musical production.

Large group instruction is effective in stimulating interest as a kick-off for small discussions and individual study which are to follow. It should, therefore, be a springboard from which the other types of instructional arrangements gain impetus.

Large group instruction succeeds most when there is a single, clearly defined, purpose and when the length of time is of short duration - perhaps only 20 to 30 minutes.



SMALL GROUP INSTRUCTION

The small group instructional technique is employed when interaction is needed as in these kinds of situations:

- Evaluating an event in history as to its lessons and implications for solving a current social problem.
- A discussion relating to a literature selection in which students are exploring possible reasons for the actions of a character in a certain set of circumstances.
- Practice in constructing generalizations from phenomena observed in a science demonstration.
- Discussing possible applications of a principle or theory.
- Deriving principles and generalizations from a reai-life or laboratory experience.

It is important that groups be the right size for the task to be accomplished. Research has shown that groups of 10 to 12 are the best size for maximum interaction. When there is a task involved a group consisting of 2 or 4 individuals has been shown to be the most economical size.

Also the length of time groups meet is an important factor in the success of this mode of learning. There needs to be time to listen, time to respond, time to become involved in interaction, time for closure. Perceiving takes time. The discovery of personal meaning is a process which seems to proceed best in an unhurried, unharried atmosphere. Small groups are able to maintain interest for considerably long periods of time (60 to 90 minutes) if the discussion is vital.

Timing is another dimension of time which is important to the success of the small group process. The right time develops accordingly to interest. experience, concern and personal need. Perhaps the right time to explore an idea with others is when strong personal motive exists.

Inflexibility of scheduling prevents facilitation of both requirements, enough time and the right time.

Teachers who employ the small group technique need training in how to help small groups function effectively and in techniques of observations. The teacher should be capable of becoming a part of the group not a focal point of all discussion and not an evaluator of ideas. Teacher-centered small group discussion defeats the very purpose for which the small group was organized. When teachers and students really listen to one another, sensitivity to individuals and their needs becomes more personal. more acute.

As teachers become more perceptive and experienced in small group techniques this mode provides an excellent setting for making the kinds of observations necessary to prescribing more suitable learning programs for individual students. Teachers will be able to sense learning needs more accurately and thus be able to direct individual student efforts both in and out of the group to greater effort.

To make the most effective use of the small group mode teachers need help in developing skill in small group instructional techniques. Some of these have been identified as: (Don Delay, 1966)

1. Skill in accurately observing cues that reveal a student's personal learning needs.
2. Ability to induce "set" or initial inquiry by means other than dominance.
3. Ability to perceive group concensus and to initiate closure and direction.
4. Skill in becoming a member of the group in good standing - (learn to be quiet, to listen and to observe).

The presence of a warm sensitive teacher is seen to be necessary in tapping the learning potential of the small group. This does not preclude the value of small discussion groups without a teacher if the purpose and nature of the task suggest such a group. Pre-taped instructions, printed discussion guides, written or taped introductory statements, staged real-life or simulated situations have all been used to initiate and guide successful small group instruction.

Teachers who would use the small group mode must be willing to undergo a searching self-appraisal. Abandoning well-enforced teaching habits is not easy and conversion from traditional teaching modes to small group modes and individual involvement may be traumatic. However, if small schools are to pursue improvement toward the goals of individualized instruction then teacher retraining seems imperative.

The WSSSP has utilized to some extent the National Training Laboratory sponsored annually for training teachers, administrators and others in leadership skills. There is a need to explore more extensively the kinds of in-service training programs that will effectively help teachers develop the skills needed to be effective with this highly sensitive but important mode of instruction.

LABORATORY EXPERIENCE

For learning to be optimally effective, students should have the opportunity to test newly learned concepts in real situations; or there may be a need for the investigative involvement of students in experimental and experiential activities prior to involvement with broad principles and abstractions. Both kinds of experience enrich learning by helping to bridge the gap between the doing of things and abstract knowledge. The school laboratories should provide this kind of experience.

Laboratory work should not be confined to science and vocational subjects. There should be laboratory experiences for English, mathematics, history, and in fact for every discipline. The need for opportunities to explore, try out, and experiment should exist at all grade levels from kindergarten through high school.

The teacher's role is to plan suitable laboratory experience in each learning sequence and then serve as an important resource, easily accessible to the learner, as he explores, experiments and tests out what he has learned.

INDEPENDENT STUDY

Progress toward individualization requires new roles to be played by the student. He will be provided with orientation, with specific objectives, and with references and easy access to materials and tools. But it must be clearly understood that learning is his job.

Such an attitude will go a long way toward solving many of the problems of motivation and involvement of the learner. However, independence on the part of the learner does not come automatically, it must be learned. WSSSP schools have employed a variety of techniques for helping students grow in independence. Among these are:

1. A four to six week unit at the beginning of each year on how to study. A variety of materials, programmed and otherwise, for use in such a unit are available from a number of commercial publishing houses.

2. Special help for individual students in improving reading skills.

3. Carefully prepared student study guides which clearly specify the objective (behavior) to be reached, the ways in which the students will be able to demonstrate their progress, clearly stated directions for each successive step in the learning sequence, and reference to the needed materials and equipment.

4. Organize for easy access to book, non-book and human resources.

5. Provide appropriate kinds of spaces for independent study and schedule time for it.

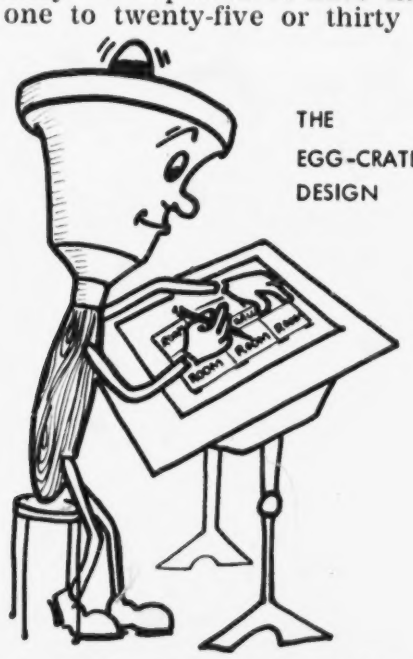
6. Plan large group instruction, small group discussion, assigned study, and laboratory work to suggest and initiate independent study activities that incite individual student interest.

7. Schedule independent study for individual students as they exhibit the need, interest and maturity for it.

Not all students will desire, require or be able to handle acceptably the same amount of independent time. The objective here is to assist each student to grow toward independence as a learner. Good teaching should be viewed as that which increases, for individual students, the opportunities for self-learning. Independent study is one of these kinds of opportunities.

SECTION 5
Physical Facilities

Most of the existing school buildings that house small schools are designed and constructed along the conventional lines of large high schools. Thus, these buildings do not serve well instructional programs designed uniquely for the small school. For example, the large high school traditionally has been planned to provide for instructional groups of twenty to thirty students in the various subject matter areas. The same pattern has been followed in planning small high schools, yet we know that a small high school which offers a comprehensive program and which attempts to serve the abilities needs and interests of its students cannot have twenty or thirty students in all the instructional groups it organizes. Rather, the small school can more realistically be expected to have classes that range from one to twenty-five or thirty students.



THE EGG-CRATE DESIGN

Also, new instructional procedures have dictated the provision of physical facilities that will accommodate learning activities not easily carried on in school buildings planned along traditional lines. Special provisions need to be made for independent study, open laboratories, small group discussion, large group instruction.

Many small school districts have old buildings, yet because of static or even declining enrollments, lack of financial resources and rising construction costs, many of these buildings are destined to be kept in use for many years to come. If ever instructional innovations are to be introduced in these schools, creative adaptations must be conceived, tried out, and modified through experience.

One project school, however, has had the very helpful experience of planning a small high school specifically designed to accommodate individualized, continuous progress instructional programs. A report of this facilities-planning project is also contained in this monograph.

Because WSSSP activities have been conducted for the most part in existing school buildings many innovative approaches to making these buildings more functional through minor remodeling having been developed. This section reports the most significant of these.

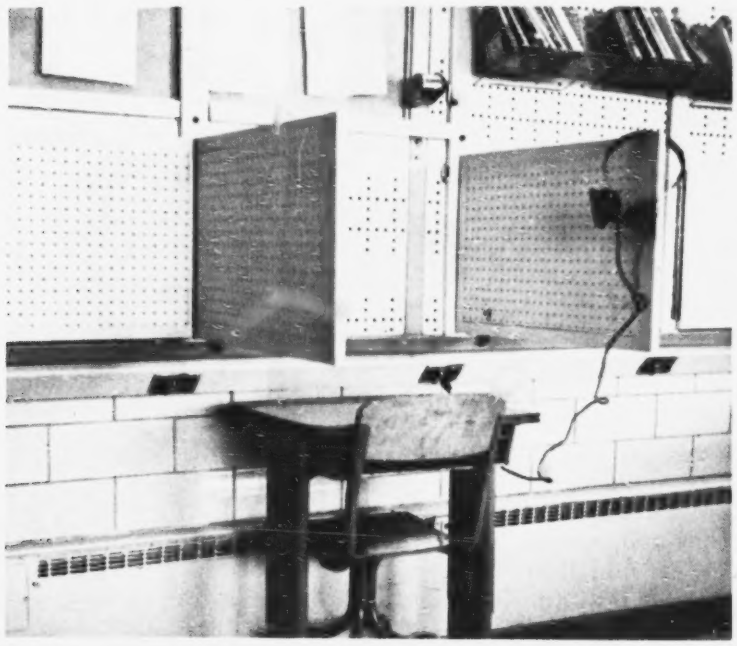
MAKE THEM FUNCTIONAL

MODIFICATION OF EXISTING FACILITIES

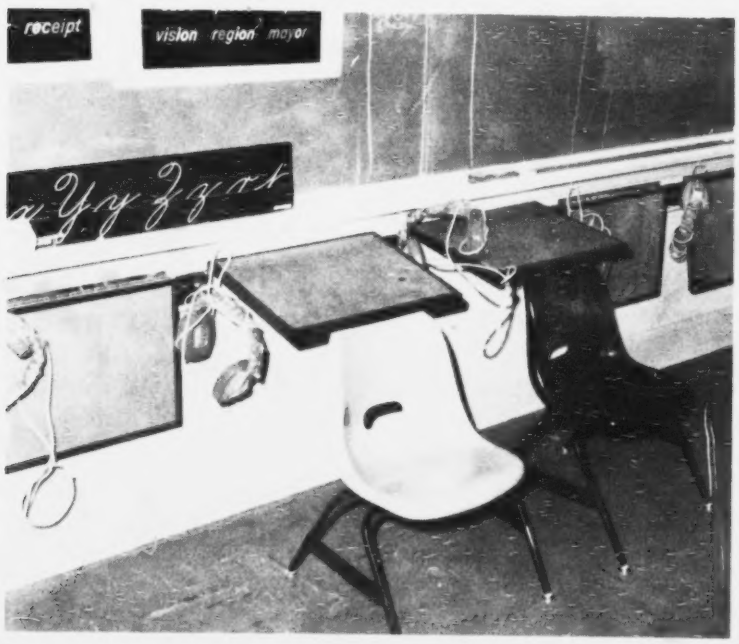
New organizational patterns (including non-grading, flexible scheduling, team teaching), new instructional techniques (including individualization, laboratory experience in all subjects, more independent study), and new applications of technology (such as amplified phone, television, audio-recording and playback, films, film-strips, slides) all demand new facilities or modifications of present facilities for effective utilizations. Most of the older schools were not built with these uses in mind and contain inadequate electrical wiring, space arrangement, and storage for the type of individualized curriculum envisaged by the WSSSP schools.

Fortunately for these schools, experimentation has demonstrated that facility modification has often proved to be an effective way of providing many needed facilities at a very small fraction of the cost of building replacement. While this type of activity was not an initial emphasis of WSSSP. it inevitably grew out of attempts to individualize the curriculum for the youngsters. For example:

More and more varied types of materials were required which in turn created a need for storage, filing, and use space for these materials. Individualization also called for different organizational arrangements resulting in the need for varied and flexible spaces. More use of laboratories and instructional media made necessary the use of electronic devices which required electric wiring and space arrangements to accommodate them.

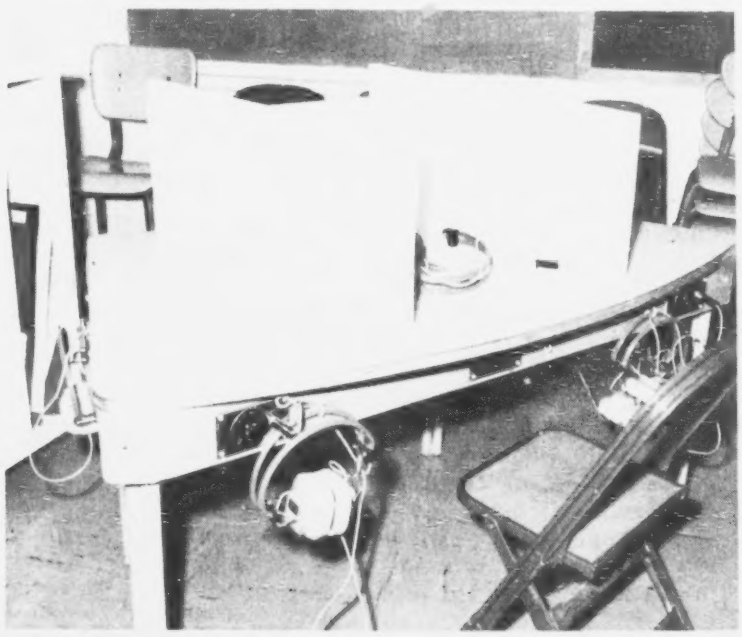


Independent study and laboratory work called for rooms which have perimeter arrangements of laboratory tables and study carrels so that the classroom could be used for both these modes of learning as well as traditional arrangements in the small schools where it is not economically feasible to set special room aside for these purposes.



Laboratory and small group activities often raised noise levels and acoustical treatment of floors and ceilings became advisable.

In all these efforts individual teachers have been central in planning modifications to better care for the needs and potential of individual students in their classrooms. Administrators with foresight have supported these teachers in their requests and boards of education have provided the funds to see the plans put into effect. Such modifications and adaptations of existing facilities make possible the offering of an up-to-date brand of education in many small schools where it is very difficult to make costly replacements.

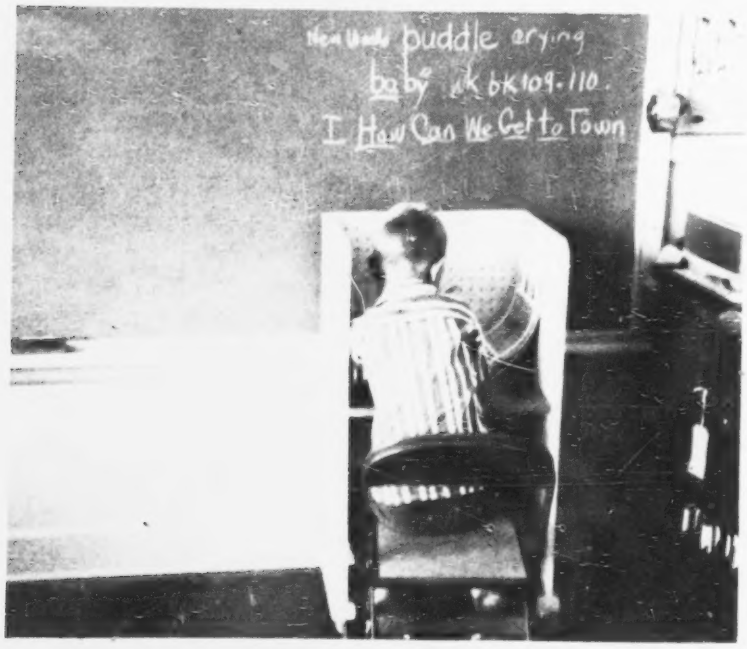


This is a modification of an elementary table by wiring it for individual head sets around the edge of the table underneath the counter and by a folding partition on top to provide individual study carrels.

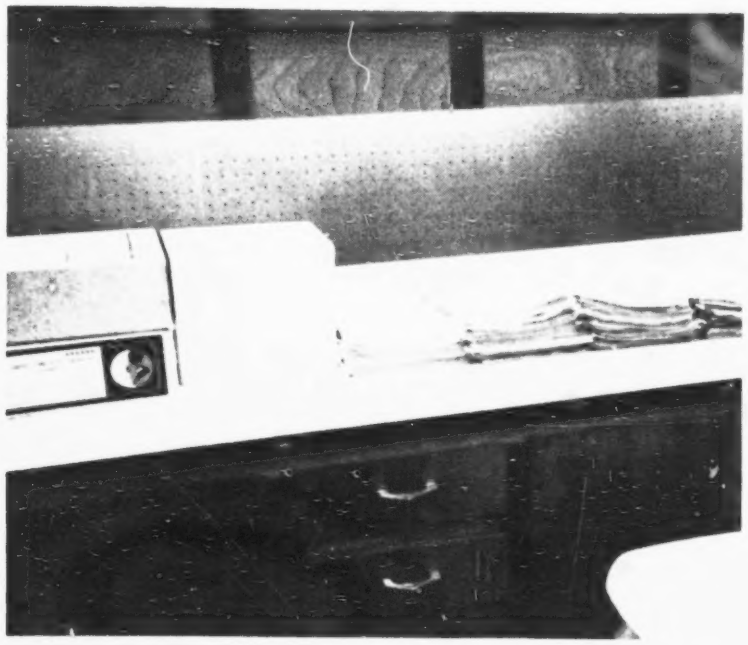
PROVIDING SUITABLE SPACES FOR INDEPENDENT STUDY

Most existing school facilities do not lend themselves to independent study activities. Project schools have been particularly ingenious in providing suitable spaces that facilitate and encourage this type of instruction. Following are a few of these kinds of imaginative provisions.

This is a view of the library in a small elementary school. The peg boards above the book racks provide space for displaying paper bound books and other books with jackets out to attract the children. This library has recently been carpeted and a counter runs below the book shelf. This provides space for students to sit down and look over the books that they have taken from the shelf.



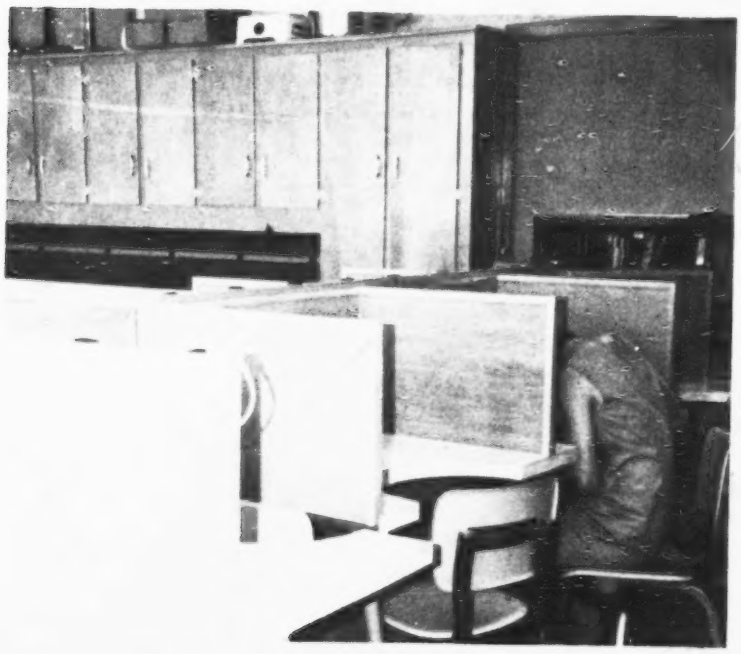
This shows an individual study carrell in the first grade classroom that is on castors and can be moved about the classroom.



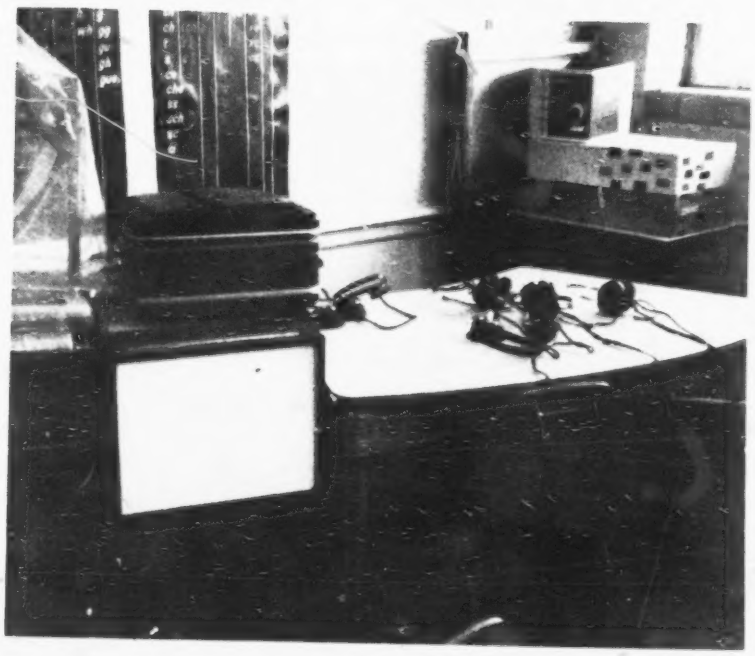
This is a view of a counter showing of the perimeter science laboratory in sixth grade elementary school showing the louvered fluorescent lighting facilities at the counter top. The perimeter type facilities for science and other lab activities provides a small school with an excellent setup for individual work.

This biology lab facility in this high school is designed for individual instruction. Students can come and go as they find time to work on biology projects. This facility is not designed primarily for a lecture type of presentation, but may be used for small group discussions.

This is a tape recorder cart. It is on castors so it can be wheeled about in the classroom and can be plugged into the perimeter listening facilities in any corner of the classroom.



This biology lab provides work carrels. These can be useful as students work on projects suitable to their own interest and ability level.



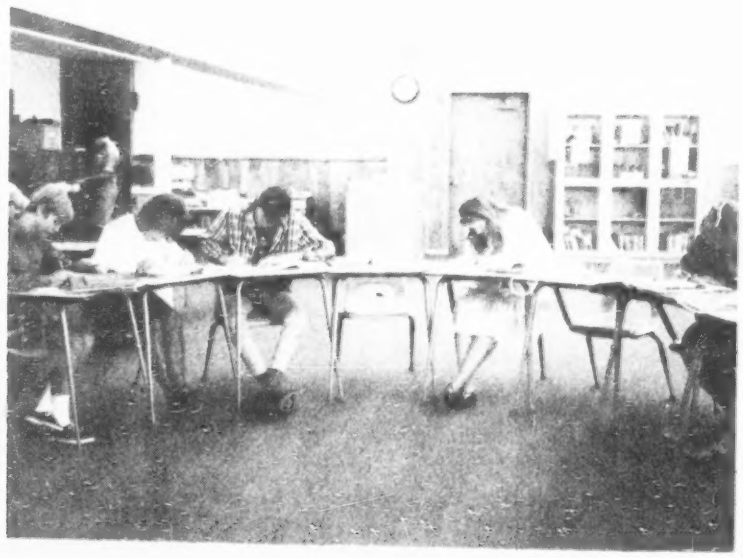
In this history classroom a console provides for the channeling of audio sources such a disk record and the tape player to individual listening stations around the perimeter of the classroom.

THE LARGE LEARNING BARN

Another approach to providing suitable facilities in a small school for an individualized program through remodeling is provided in schools where a large open area has been created within which all aspects of the instructional program are carried on. Such a space makes possible large group, small group and individualized instruction within the single facility without interference even when many diverse activities are being carried on simultaneously.

Such a learning laboratory or "learning barn" was made possible in one school by the remodeling of an old gymnasium. In another school nonbearing walls between classrooms were removed to provide the necessary area. Such a facility is particularly effective in support of a continuous progress program featuring team teaching.

The inter-accessibility of teachers, students, materials and spaces is a distinct advantage of the "learning barn" type of instructional facility. Provided within the confines of the large instructional area are the materials, equipment and spaces needed for a wide variety of learning activities. Students have easy access to these and to the "team" of teachers working in the large instructional laboratory. Teachers can readily make contact with individual students and instructional groups of various sizes may be organized almost on demand.



PLANNING A NEW SCHOOL FACILITY AT ASPEN, COLORADO

The Board of Education as Aspen, Colorado secured the services of the Educational Planning Service at Colorado State College to work with the board, administrators, faculty members, interested citizens, and the architect in reviewing the present senior high curriculum and in developing guidelines for the educational program to be housed in a new building.

Common agreement was reached that an important responsibility of the school is to instill in each student a desire to learn and to continue learning beyond his secondary school experience. To accomplish this goal the student must be accepted where he is and must experience an instructional program in which he achieves reasonable success.

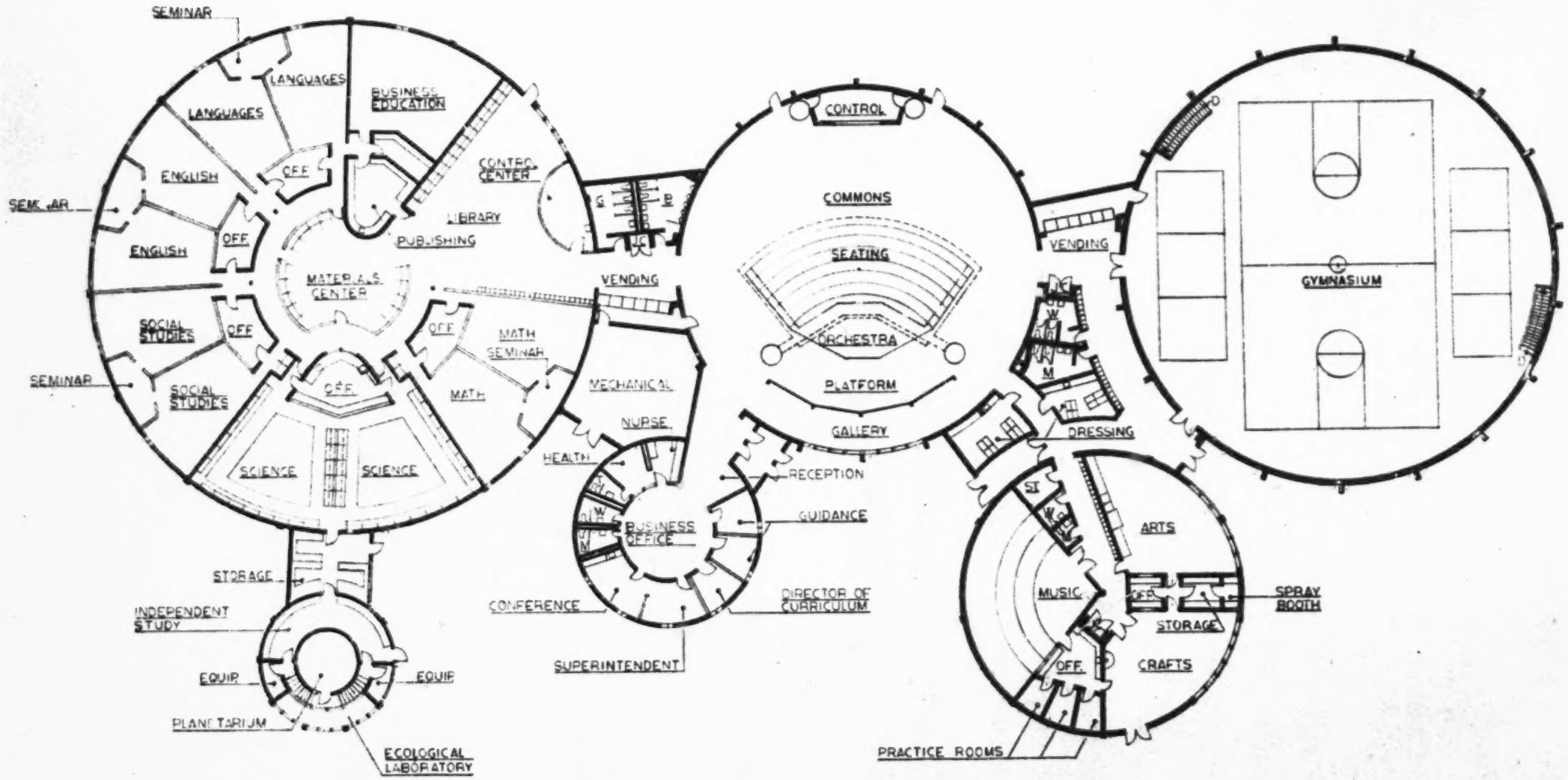
This kind of instructional program builds upon knowledge of the student resulting from extensive guidance and counseling services. These services (1) identify his needs, abilities, interests, and current level of development; (2) guide him into appropriate learning experiences; and (3) through continuing service, identify and assist those having difficulty in realizing their potential.

The programs designed by such a guidance service are obviously individual programs. Instructional techniques, therefore, must be geared and equipped to handle instruction on an individual basis. Such instruction will include large and small group work necessary for individual development and will accomplish educational goals efficiently. It must also possess the techniques and media which can best provide for individual differences in ability, interest, and level of accomplishment.

These techniques and media, in a high school of the proposed size, will include provision for multiple-class teaching; large-group lecture and demonstrations; small-group and individualized discussion; research, and project work; increased use of audio-visual aids including large-group viewing and individual viewing of films, slides, and television; use of tape recorders and other listening devices; use of programmed instructional materials and teaching machines; use of amplified telephone presentations; provision for relatively long-term student experimentation and research projects; a method of student progress through common and specific areas of the curriculum which is dependent on accomplishment rather than time; and a flexible system of scheduling which will provide varying amounts of time for study in specific areas of the curriculum depending on student ability, interest, and ultimate goals.

With this general overview and these specific concepts in mind, educational specifications were prepared for the various subject areas. The decisions of the board and the preliminary conferences with teachers, administrators, and the architect were essential in translating the general goals into specific recommendations.

ASPEN HIGH SCHOOL
1966



MAIN FLOOR PLAN

SCALE 1/16" = 1'-0"

5 10 15 25 35 50
GRAPHIC SCALE

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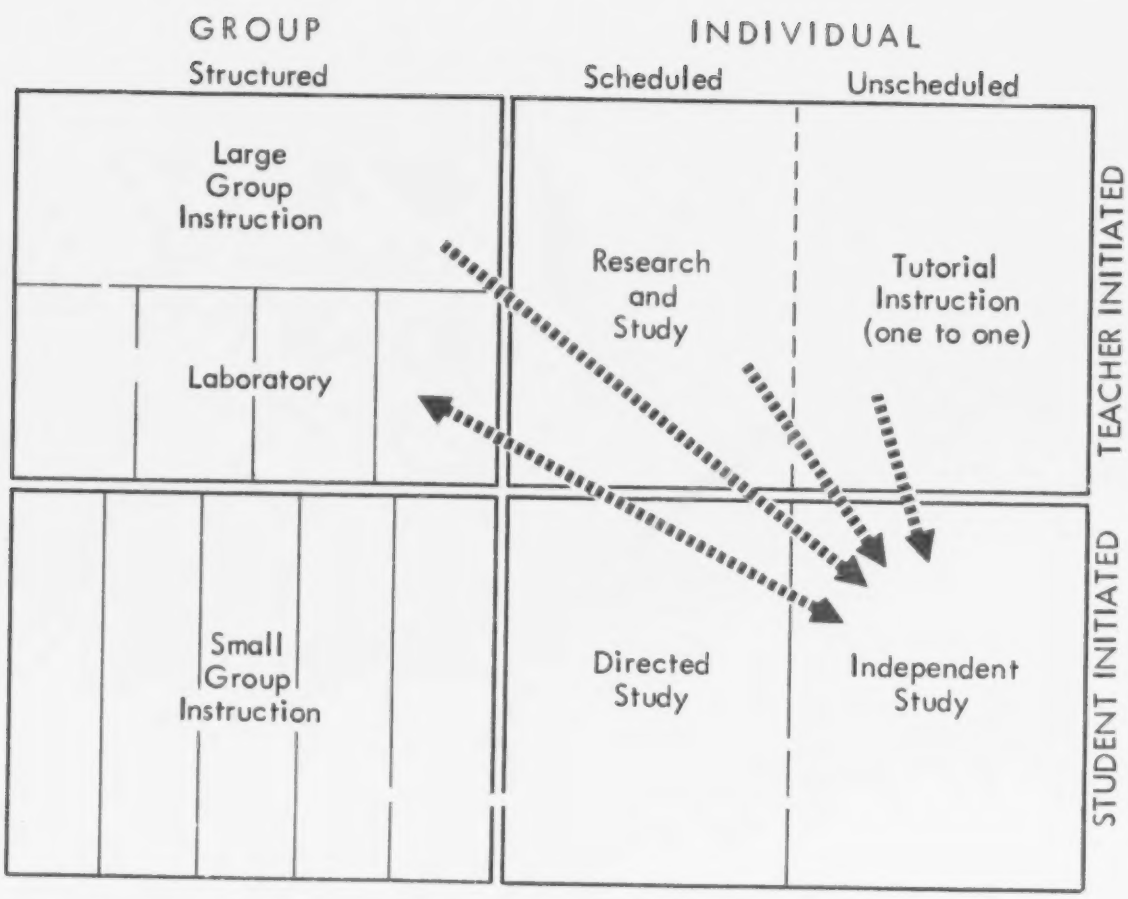
GROUP
INDIVIDUAL
Structured
Scheduled
Unscheduled
Large Group Instruction
Laboratory
Research and Study
Tutorial Instruction (one to one)
Small Group Instruction
Directed Study
Independent Study
TEACHER INITIATED
STUDENT INITIATED